MANUAL TRANSMISSION

MODEL F4M21, F5M21, F5M22, F5M31, F5M33, W5M31 AND W5M33

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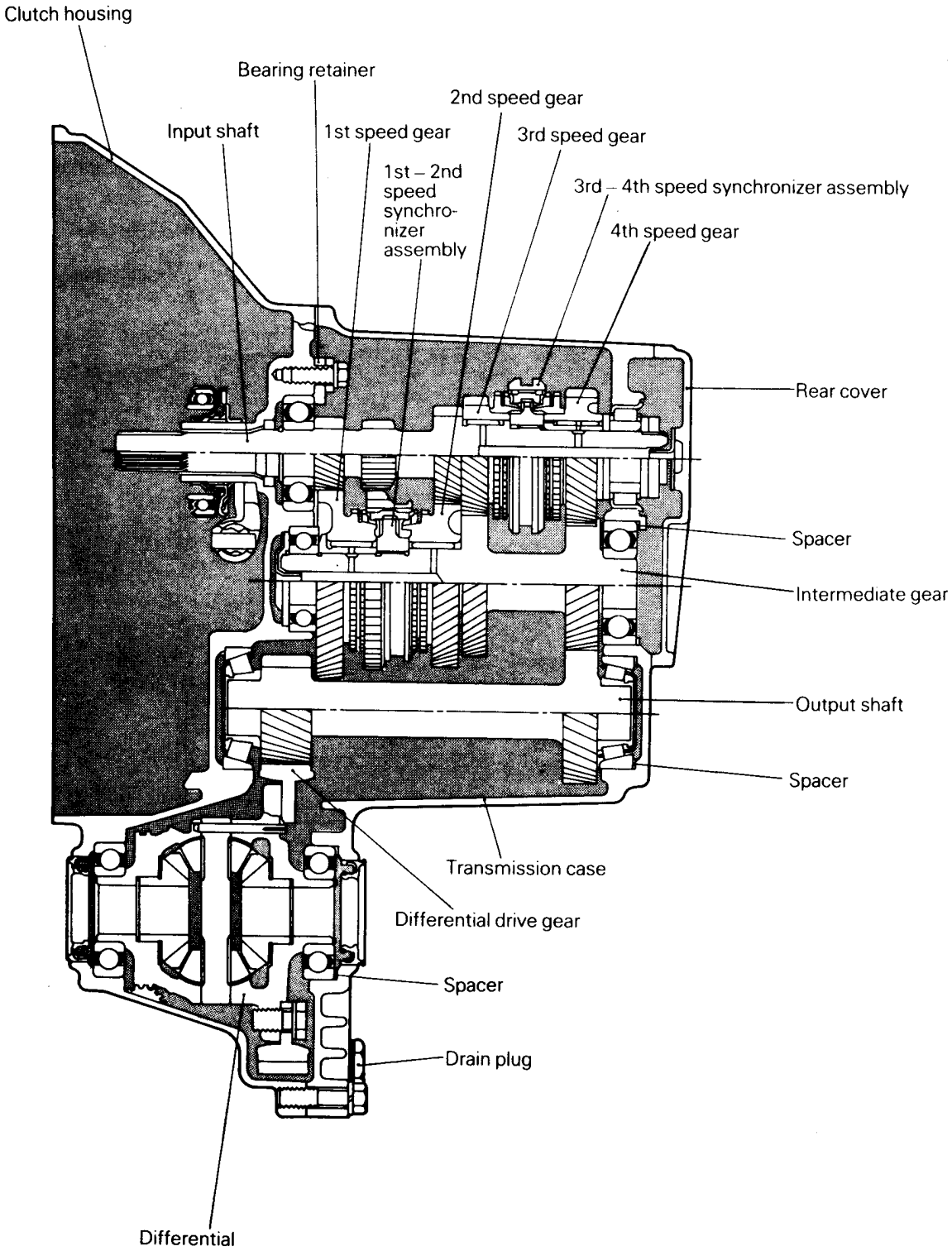

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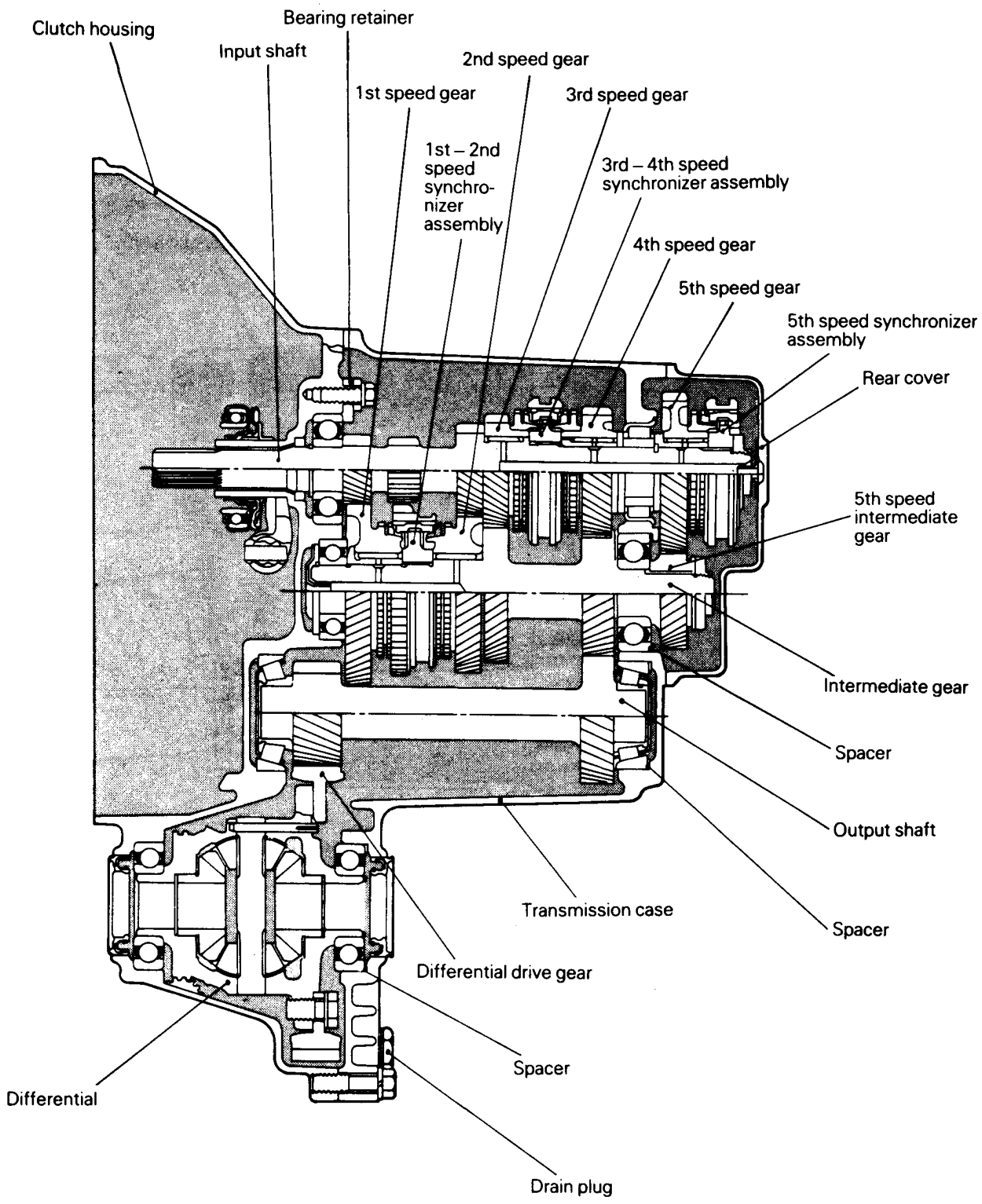

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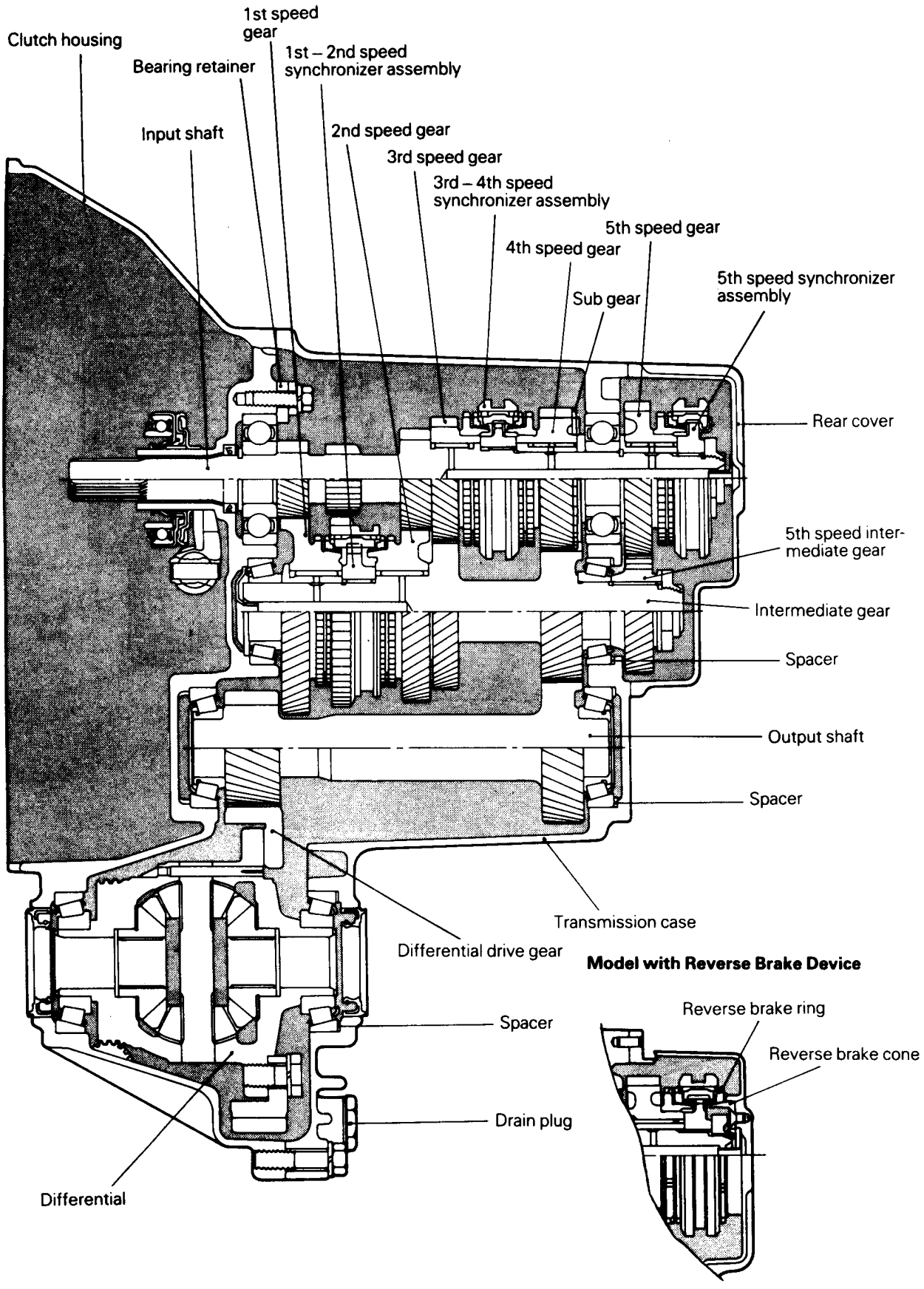

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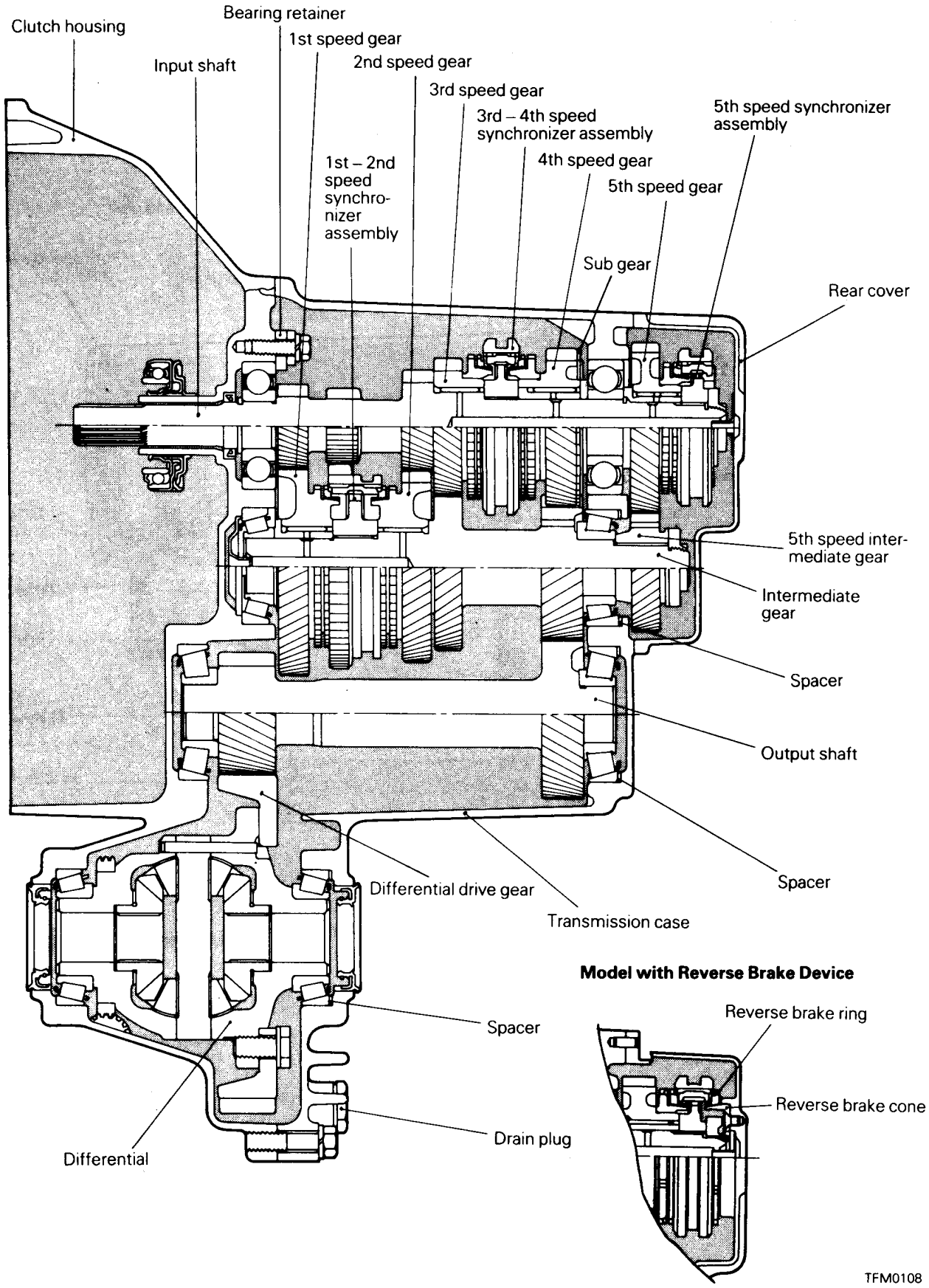

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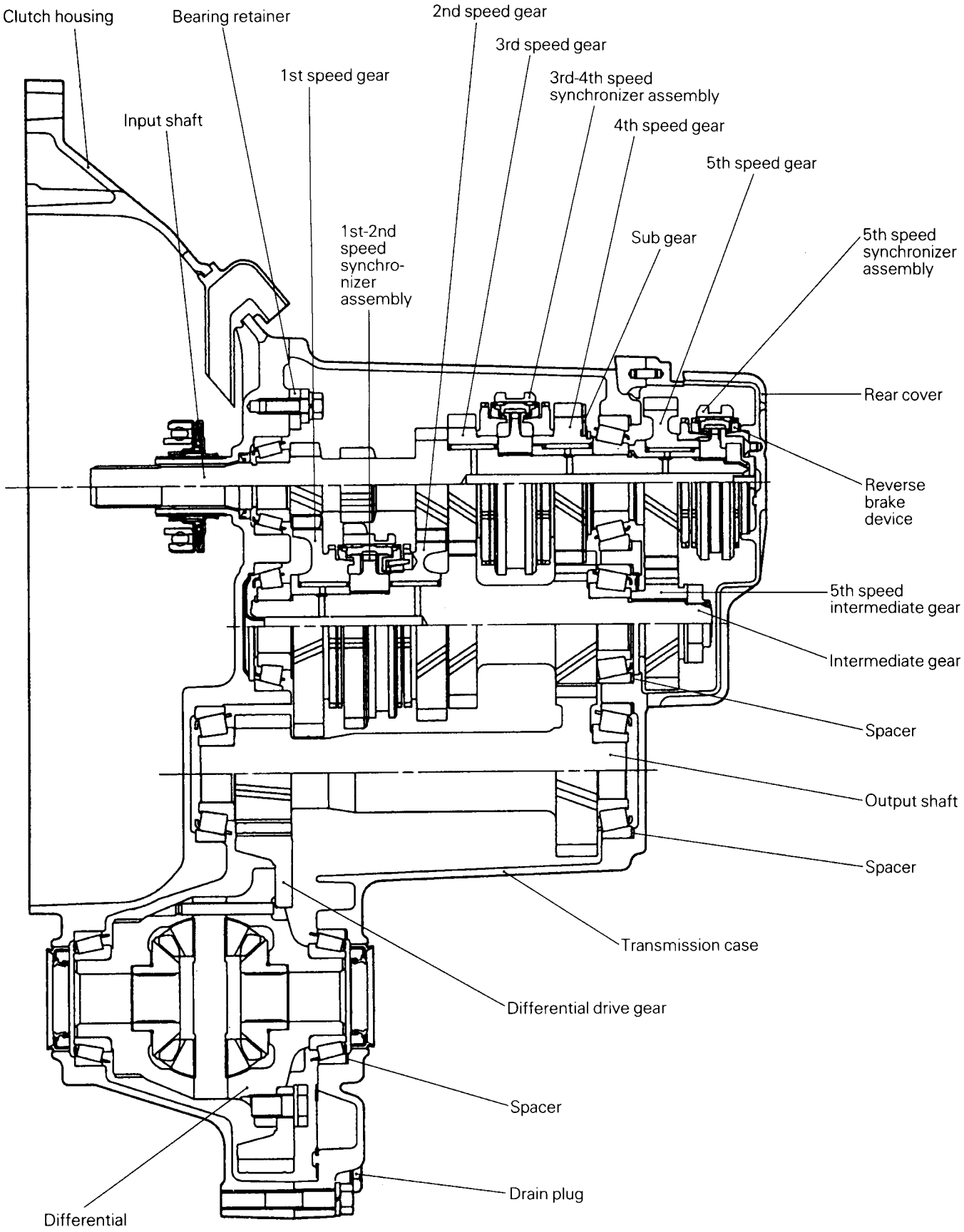

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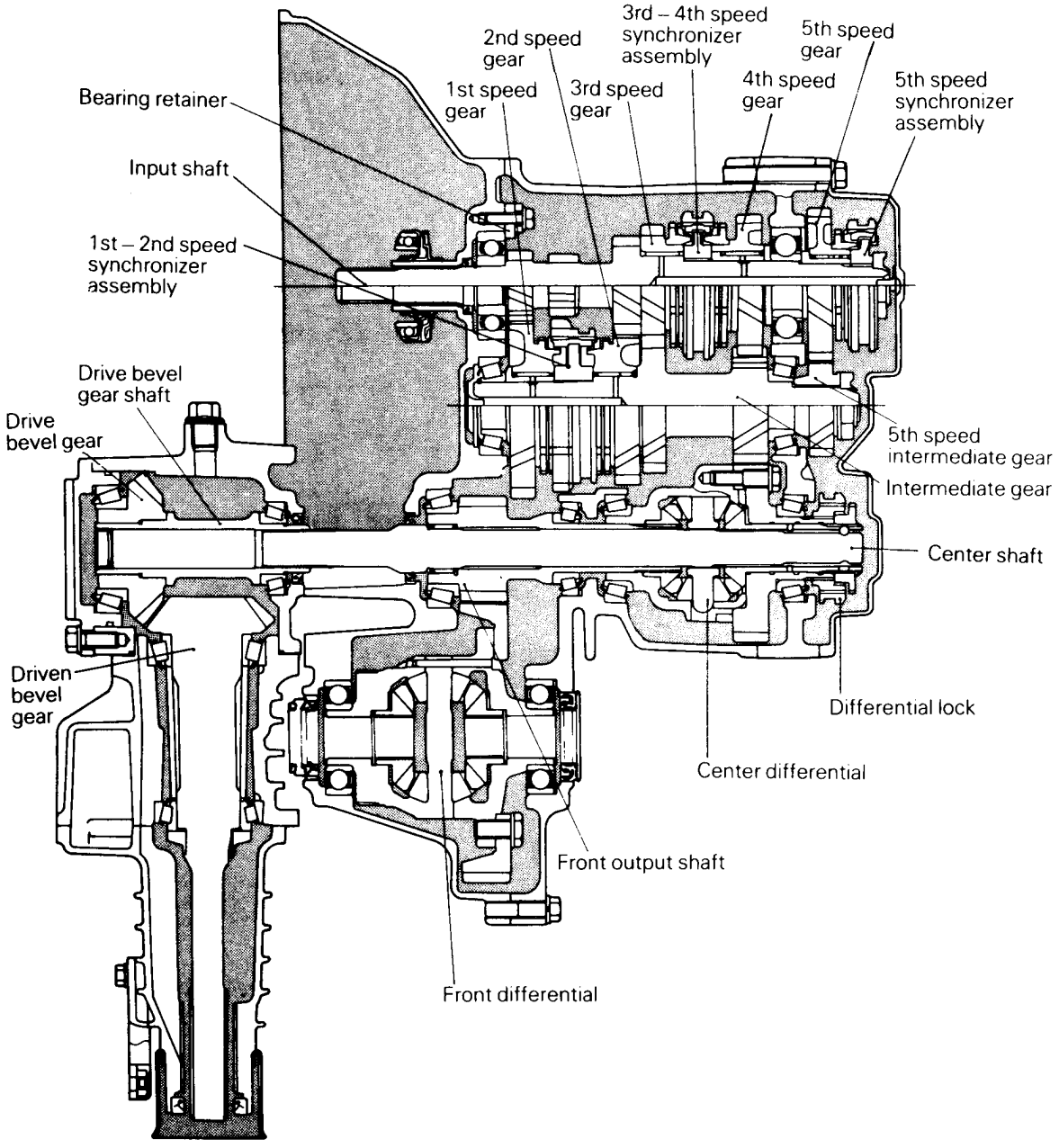

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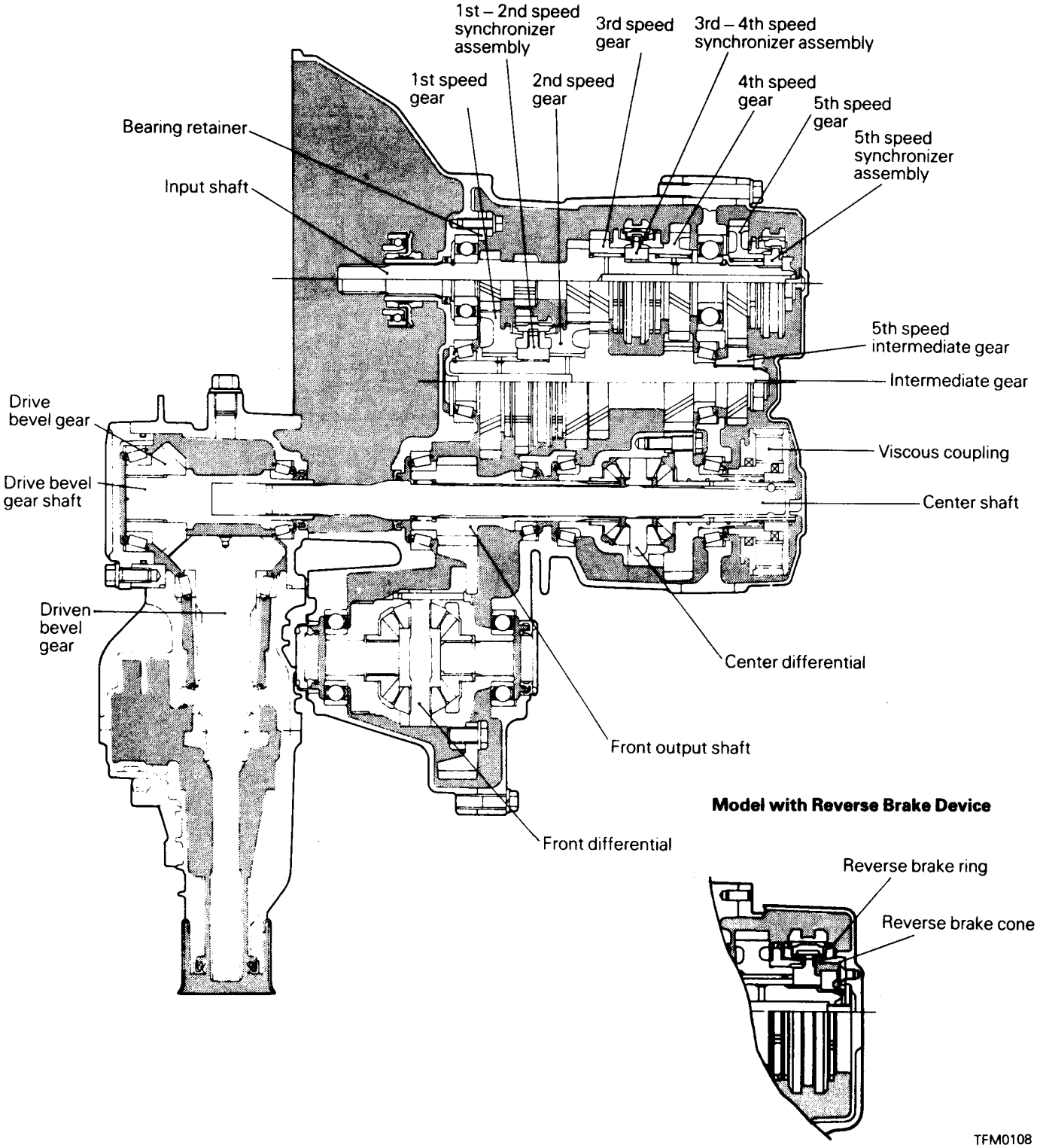
MODEL W5M31 – FIVE SPEED FOUR WHEEL DRIVE TRANSMISSION WITH VISCOUS COUPLING



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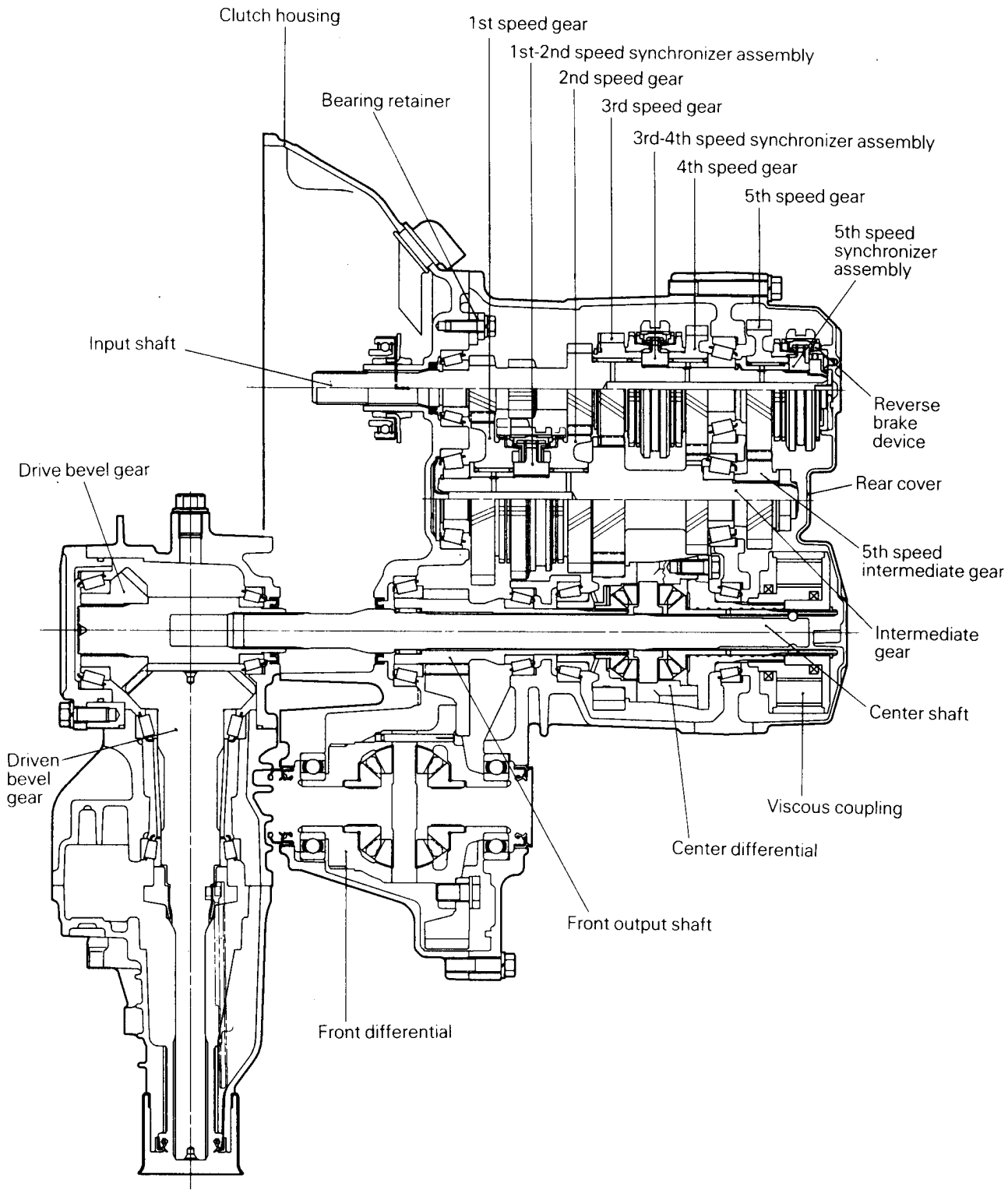

TFM0014

LIST OF MAJOR CHANGES

	Description of Change	Applicable Transmission Model	Effective Date
①	Output shaft bearing changed from ball bearing to taper roller bearing.	F4M21, F5M21	From July 1987
②	Synchronizer spring and synchronizer key changed it shape.	All models	From Sept. 1987
③	Synchronizer ring diameter reduced by 1 mm (0.04 in.).	All models	From Oct. 1987
④	Tooth width of 5th speed gear increased by 3 mm (0.12 in.).	F5M21, F5M22	From Nov. 1987
⑤	Input shaft snap ring added.	5-speed model only	From Dec. 1987
⑥	3rd-4th speed synchronizer sleeve & key, 5th speed synchronizer sleeve key and rear cover changed.	All models	From Nov. 1988
⑦	Reverse brake device added.	5-speed model only	From Jan. 1989
⑧	1st-2nd speed synchronizer spring changed in shape.	All models	From Nov. 1989
⑨	Filter added to intermediate rear bearing.	W5M31 for EC only	From Jan. 1990

1. SPECIFICATIONS

TRANSMISSION MODEL TABLE – MODEL 1987

	Transmission model	Gear ratio	Speedometer gear ratio	Final gear ratio	Vehicle model	Engine model
EC	KM200-0-DL	A	32/36	4.322	C15A	4G16
	KM201-0-C	B	31/36	4.021	E11A	4G32
	CL	D	32/36	4.021	C11A, C12A	4G13, 4G15
	CN	B	29/36	4.021	E11A, E15A	4G32, 4G63
	DL	D	32/36	4.322	C15A, C12V	4G15, 4G16
	KM206-0-AQL	B	31/36	4.021	C14A	4D65
	C	B	31/36	4.021	E15A	4G63
	CKQL	D	31/36	4.021	C13A	4G32 Turbo
	CN	B	29/36	4.021	E15A	4G63
	CP	B	30/36	4.021	E15A	4G63
	FKL	B	32/36	4.021	C14V	4D65
	KM210-0-A	F	31/36	4.067	E16A	G64B
	AQL	I	31/36	4.067	C13A	4G32 Turbo
	MCKN	G	29/36	4.471	E14A	4D65 Intercooler Turbo
	MCKP	H	29/36	4.471	E14A	4D65 Intercooler Turbo
	KM220-0-JN	K	29/36	5.084	C37	4G37, G37B
	J	J	31/36	5.084	C37	4G37, G37B
EXP	KM200-0-C	A	31/36	4.021	E11A	4G32
	CL	A	32/36	4.021	C11A	4G13
	DQL	A	31/36	4.322	C11V	4G13
	KM201-0-C	B	31/36	4.021	E11A, E12A	4G32, 4G37
	CL	D	32/36	4.021	C11A, C12A	4G13, 4G15
	CP	B	30/36	4.021	E12A	4G37
	DL	D	32/36	4.322	C11V, C12V	4G13, 4G15
	KM206-0-AKL	B	32/36	3.752	C14A	4D65
	CN	B	29/36	4.021	E15A	4G63
	CP	B	30/36	4.021	E15A	4G63
	KM210-0-AQL	I	30/36	4.067	C13A	4G32 Turbo
	KM220-0-J	J	31/36	5.084	C37	4G37

NOTE
For the gear ratio, refer to the GEAR RATIO TABLE on page 22A-1-7.

TRANSMISSION MODEL TABLE – MODEL 1988

	Transmission model	Gear ratio	Speedometer gear ratio	Final gear ratio	Vehicle model	Engine model
EC	KM200-0-DL	A	32/36	4.322	C15A	4G16
	KM201-0-CL	D	32/36	4.021	C11A, C12A	4G13, 4G15
	CPH	B	30/36	4.021	E31A	4G32
	CZ	C	31/36	4.021	D05V, D05W	4G37
	DL	D	32/36	4.322	C15A, C12V	4G15, 4G16
	KM206-0-CKNH	B	29/36	4.021	E33A	4G63
	CKPH	B	30/36	4.021	E33A	4G63
	CKQL	D	31/36	4.021	C13A	4G32 Turbo
	CKZ	C	31/36	4.021	D09V, D09W	4D65 Turbo
	DNH	B	29/36	4.322	E32A	4G37
	EKPH	E	30/36	4.592	E33A	4G63 DOHC
	FKL	B	32/36	4.021	C14V	4D65
	KM210-0-BN	I	29/36	4.322	E16A	4G64
	MCNH	H	29/36	4.471	E34A	4D65 Turbo
	KM220-0-JN	J	29/36	5.084	C37V	4G37, G37B
	J	J	31/36	5.084	C37V	4G37, G37B
EXP	KM200-0-CL	A	32/36	4.021	C11A	4G13
	DQL	A	31/36	4.322	C11V	4G13
	KM201-0-AKL	D	32/36	3.752	C14V	4D65
	CL	D	32/36	4.021	C11A, C12A	4G13, 4G15
	CP	B	30/36	4.021	E12A	4G37
	CPH	B	30/36	4.021	E31A	4G32
	CZ	C	31/36	4.021	D04W	4G37
	DL	D	32/36	4.322	C11V, C12V	4G13, 4G15
	KM206-0-AKQL	B	31/36	3.752	C14A	4D65
	CKNH	B	29/36	4.021	E33A	4G63
	CKTX	B	30/36	4.021	E15A	4G63
	CNH	B	29/36	4.021	E33A	4G63
	DNH	B	29/36	3.941	E31A, E32A	4G32, 4G37
	EKPH	E	30/36	4.187	E33A	4G63 DOHC
	KM210-0-AP	F	30/36	4.067	E16A	4G64
	KM220-0-J	J	31/36	5.084	C37V	4G37
AUS	KM206-0-CZ	C	31/36	4.021	D04W	4G63

NOTE
DOHC: Double overhead camshaft
For the gear ratio, refer to the GEAR RATIO TABLE on page 22A-1-7.

TRANSMISSION MODEL TABLE – MODEL 1989

	Transmission model	Gear ratio	Speedometer gear ratio	Final gear ratio	Vehicle model	Engine model
EC	KM200-0-CQL	A	31/36	4.021	C51A, C61A	4G13
	KM201-0-CL	D	32/36	4.021	C12A	4G15
	CKQL	D	31/36	4.021	C52A, C62A	4G15
	CQL	D	31/36	4.021	C51A, C52A, C62A	4G13, 4G15
	CQL1	D	31/36	4.021	C51A, C52A, C62A	4G13, 4G15
	CZ	C	31/36	4.021	D05V, D05W	4G37
	DKRL	D	32/36	4.322	C12V	4G15
	DL	D	32/36	4.322	C12V	4G15
	KM206-0-AJQK	B	31/36	3.752	C54A, C64A	4D65
	CKZ	C	31/36	4.021	D04W	4G63
	EKQL (EJQL)*	E	31/36	4.592	C53A, C63A	4G61 DOHC
	EKL	B	32/36	4.021	C14V	4D65
	KM210-0-BN*	I	29/36	4.322	E16A	4G64
	KM220-1-JN	K	29/36	5.084	C37V	4G37
	KM221-1-CNH*	L	29/36	5.208	E38A, E39A	4G63
	CPH*	L	30/36	5.208	E38A, E39A	4G63 DOHC
EXP	KM200-0-DQL	A	31/36	4.322	C11V	4G13
	KM201-0-AKQL	B	31/36	3.752	C54A, C64A	4D65
	CL	D	32/36	4.021	C11A, C12A	4G13, 4G15
	CKQL	D	31/36	4.021	C62A	4G15
	CQL	D	31/36	4.021	C51A, C52A, C61A, C62A	4G13, 4G15
	CQL1	D	31/36	4.021	C51A, C61A	4G13
	CZ	C	31/36	4.021	D05W	4G37
	DL	D	32/36	4.322	C11V, C12V	4G13, 4G15
	KM206-0-AKQL	D	31/36	3.752	C64A	4D65
	EKQL (EJQL)*	E	30/36	4.187	C53A, C63A	4G61 DOHC
	KM220-1-JN	K	29/36	5.084	C37V	4G37
AUS	KM201-0-CQL1	D	31/36	4.021	C64A	4D65
	KM206-0-CZ	C	31/36	4.021	D04W	4G63

NOTE
DOHC: Double overhead camshaft
For the gear ratio, refer to the GEAR RATIO TABLE on page 22A-1-7.
*: Model with reverse brake device.

TRANSMISSION MODEL TABLE – MODEL 1990

	Transmission model	Gear ratio	Speedometer gear ratio	Final gear ratio	Vehicle model	Engine model
EC	F4M21-1-RRAC	A	31/36	4.021	C15A, C15V	4G13
	VRAC	A	31/36	4.322	C15A, C15V	4G13
	F5M21-1-RRAC	D	31/36	4.021	C51A, C61A	4G13
	RRBC	D	31/36	4.021	C51A, C61A	4G13
	RRJC	D	31/36	4.021	C52A, C62A	4G15
	VRAC	D	31/36	4.322	C12V, C65A	4G15, 4G16
	VRJC	D	31/36	4.322	C12V	4G15
	RRAN	C	31/36	4.021	D05W, D05V	4G37
	RQAH	B	30/36	4.021	E31A	4G32
	F5M22-1-VPKH	B	29/36	4.322	E32A	4G37
	VQKH	B	30/36	4.322	E32A	4G37
	FRKC	B	31/36	3.752	C54A, C64A	4D65
	RRKN	C	31/36	4.021	D09W, D09V	4D65 Turbo
	RRMC	B	31/36	4.021	C14V	4D65
	2-XRZC*	E	31/36	4.592	C53A, C63A	4G61 DOHC
	F5M31-2-VPKY*	G	29/36	4.322	E16A	4G64
	W5M31-1-SPAC	K	29/36	5.084	C37V	4G37
	2-SRBC*	K	31/36	5.084	C77A	4G37
	VPZH*	M	29/36	5.084	E39A	4G63
EXP	F4M21-1-RRAC	A	31/36	4.021	C61A	4G13
	VRAC	A	31/36	4.322	C11V	4G13
	F5M21-1-RRAC	D	31/36	4.021	C51A, C52A, C61A, C62A	4G13, 4G15
	RRBC	D	31/36	4.021	C15A, C52A, C61A, C62A	4G13, 4G15
	RRCC	D	31/36	4.021	C52A, C62A	4G15
	RRJC	D	31/36	4.021	C52V, C62A	4G15
	VRAC	D	31/36	4.322	C11V, C12V	4G13, 4G15
	FRJC	B	31/36	3.752	C54A, C64A	4D56
	F5M22-1-VPAH	B	29/36	4.322	E32A	4G37
	RPAH	B	29/36	4.021	E33A	4G63
	FDTC	B	31/36	3.752	C64A	4D56
	RCKY	B	30/36	4.021	E15A	4G63
	2-XRZC*	E	31/36	4.592	C53A, C63A	4G61 DOHC
	XQZH*	E	30/36	4.592	E33A	4G63 DOHC
	F5M31-2-RQKY*	I	30/36	4.067	E16A	4G64
	W5M31-1-SPAC	K	29/36	5.084	C37V	4G37
AUS	F5M21-1-RRBC	D	31/36	4.021	C62A	4G15
	RRJC	D	31/36	4.021	C52A, C62A	4G15
	F5M22-1-RRAN	C	31/36	4.021	D04W	4G63

NOTE
DOHC: Double overhead camshaft
For the gear ratio, refer to the GEAR RATIO TABLE on page 22A-1-7.
*: Model with reverse brake device.

TRANSMISSION MODEL TABLE – MODEL 1991

Transmission model		Gear ratio	Speedometer gear ratio	Final gear ratio	Vehicle model	Engine model
EC	F5M21-1-VRAC	D	31/36	4.322	C12V, C15V, C65A	4G13, 4G15 4G16
	VRJC	D	31/36	4.322	C12V	4G15
	VRLC	E	31/36	4.322	C52A, C62A	4G15
	VRDC	E	31/36	4.322	C52A, C62A	4G15
	RRJC	D	31/36	4.021	C52A, C62A	4G15
	VRBC	D	31/36	4.322	C51A, C61A	4G13
	XRAC	D	31/36	4.592	C51A, C61A	4G13
	RRAC	C	31/36	4.021	D05V, D05W	4G37
	RQAK	B	30/36	4.021	E31A	4G32
	RQAH	B	30/36	4.021	E31A	4G32
	F5M22-1-RRMC	B	31/36	4.021	C14V	4D65
	FRKC	B	31/36	3.752	C54A, C64A	4D65
	RRKN	C	31/36	4.021	D04W, D09V, D09W	4D65 Turbo
	VPAK	B	29/36	4.322	E32A	4G37
	VRKK	B	29/36	4.322	E32A	4G37
	VQKK	B	30/36	4.322	E32A	4G37
	RPKK	B	29/36	4.021	E33A	4G63
	2-XRKC	E	31/36	4.592	C58A, C68A	4G67 DOHC
	XPZK	E	29/36	4.592	E33A	4G63 DOHC
	F5M31-1-WPMK	H	29/36	4.471	E34A	4G63 Turbo
	F5M33-2-SNZ	J	28/36	4.153	F16A	6G72, 6G72 DOHC
	W5M31-1-SPAC	K	29/36	5.084	C37V	4G37
	SPBC	K	29/36	5.084	C37V	4G37
	2-SRBC	K	31/36	5.084	C87A	4G37
	VPXK	L	29/36	5.208	E39A	4G63
	VQXK	L	30/36	5.208	E39A	4G63
	VPZK	M	29/36	5.208	E39A	4G63 DOHC

NOTE
DOHC: Double overhead camshaft

TRANSMISSION MODEL TABLE – MODEL 1991

Transmission model		Gear ratio	Speedometer gear ratio	Final gear ratio	Vehicle model	Engine model
EXP	F4M21-1-VRAC	A	31/36	4.322	C11V	4G13
	RRAC	A	31/36	4.021	C61V	4G13
	F5M21-1-VRAC	D	31/36	4.322	C11A, C12V, C51A, C61A	4G13, 4G15
	VRBC	D	31/36	4.322	C51A, C61A	4G13
	VRLC	E	31/36	4.322	C52A, C62A	4G15
	VRDC	E	31/36	4.322	C52A, C62A	4G15
	XRUC	E	31/36	4.322	C52A, C62A	4G15
	RRJC	D	31/36	4.021	C62A	4G15
	FRJC	B	31/36	3.752	C64A	4D65
	RQAK	B	30/36	4.021	E31A	4G32
	F5M22-1-FRKC	B	31/36	3.752	C54A	4D65
	FDTC	B	31/36	3.752	C64A	4D65
	RCKY	B	30/36	4.021	E15A	4G63
	VPAK	B	29/36	4.322	E32A	4G37
	RPAK	B	29/36	4.021	E33A	4G63
	RPKK	B	29/36	4.021	E33A	4G63
	2-XRZC	E	31/36	4.592	C58A, C68A	4G67 DOHC
	XQZK	E	30/36	4.592	E33A	4G63 DOHC
	F5M33-2-SNZ	J	28/36	4.153	F16A	6G72, 6G72 DOHC
	W5M31-1-SPAC	K	29/36	5.084	C37V	4G37
	W5M33-2-NQZK	N	30/36	4.933	E39A	4G63 DOHC Intercooler Turbo
MMAL	F5M21-1-VRXC	E	31/36	4.322	C52A, C62A	4G15
	1-VRDC	E	31/36	4.322	C62A	4G15
	F5M22-1-RPKK	B	29/36	4.021	E33A	4G63
	2-ZRZC	E	31/36	4.592	C53A	4G61 DOHC
	XQZK	E	30/36	4.592	E33A	4G63 DOHC
	W5M33-2-NQZK	N	30/36	4.933	E39A	4G63 DOHC Intercooler Turbo

NOTE
DOHC: Double overhead camshaft

TRANSMISSION MODEL TABLE – MODEL 1992

	Transmission model	Gear ratio	Speedometer gear ratio	Final gear ratio	Vehicle model	Engine model
EC	F5M21-1-RQAK	B	30/36	4.021	E31A	4G32
	VRAE	E	31/36	4.021	CA1A	4G13
	VRJE	E	31/36	4.021	CA1A	4G13
	2-XPZK	D	29/36	4.592	E33A	4G63 DOHC
	F5M22-1-RPKK	B	29/36	4.021	E33A	4G63
	RQKK	B	30/36	4.021	E33A	4G63
	VPAK	B	29/36	4.322	E32A	4G37
	VPKK	B	29/36	4.322	E32A	4G37
	VQKK	B	30/36	4.322	E32A	4G37
	VRKK	B	31/36	4.322	E32A	4G37
	XPXL	B	29/36	4.592	N11W, N31W	4G93
	2-RRXE	B	31/36	4.021	CA4A	4G92
	VRZE	B	31/36	4.322	CA5A	4G93 DOHC
	XPZK	B	29/36	4.592	E33A	4G63 DOHC
	F5M31-1-WPMK	H	29/36	4.471	N35W	4D65 Turbo
	ZPXZ	K	29/36	4.913	E34A	4D65 Turbo
	F5M33-2-SNEJ	J	28/36	4.153	F16A	6G72 DOHC
	SNQJ	J	28/36	4.153	F16A	6G72
	W5M31-2-VPLK	O	29/36	5.208	E39A	4G63 DOHC
	VPXK	O	29/36	5.208	E38A, E39A	4G63
	VPXL	M	29/36	5.208	N21W, N41W	4G93
	VQXK	O	30/36	5.208	E38A, E39A	4G63
	VRCE	M	31/36	5.208	CC4A	4G92

NOTE
DOHC: Double overhead camshaft

Transmission model		Gear ratio	Speedometer gear ratio	Final gear ratio	Vehicle model	Engine model
EXP	F5M21-1-RQAK	B	30/36	4.021	E31A	4G32
	RRAE	B	31/36	4.021	CB1A	4G13
	RRAE	B	31/36	4.021	CA2A, CB2A	4G15
	RRBE	B	31/36	4.021	CA2A, CB2A	4G15
	VRAE	E	31/36	4.322	CA1A, CB1A	4G13
	VRBE	E	31/36	4.322	CA1A, CB1A	4G13
	VRJE	E	31/36	4.322	CB1A	4G13
	F5M22-1-FDTE	B	31/36	3.752	CB8A	4D68
	FRME	B	31/36	3.752	CB8A	4D68
	RPAK	B	29/36	4.021	E33A	4G63
	RPKK	B	29/36	4.021	E33A	4G63
	VPAK	B	29/36	4.322	E32A, E33A	4G37
	VQKK	B	30/36	4.322	E32A	4G37
	VRKK	B	31/36	4.322	E32A	4G37
	XPLL	B	29/36	4.592	N11W, N31W	4G93
	XPXL	B	29/36	4.592	N11W, N31W	4G93
	2-RRXE	B	31/36	4.021	CA4A	4G92
	VRZE	B	31/36	4.322	CA5A	4G93 DOHC
	XQZK	B	30/36	4.592	E33A	4G63 DOHC
	F5M31-2-ZQZK	K	30/36	4.913	E33A	4G63 DOHC
	F5M33-2-SNQJ	J	28/36	4.153	F16A	6G72, 6G72 DOHC
	W5M33-2-NQBM	Q	30/36	4.933	E39A	4G63 DOHC Intercooler Turbo
	NQZK	Q	30/36	4.933	E39A	4G63 DOHC Intercooler Turbo
	NQZM	Q	30/36	4.933	E39A	4G63 DOHC Intercooler Turbo
AUS	F5M21-1-RRBE	B	31/36	4.021	CA2A, CB2A	4G15
	F5M22-1-RPKK	B	29/36	4.021	E33A	4G63
	2-RRKE	B	31/36	4.021	CA5A, CB5A	4G93
	XQZK	B	30/36	4.592	E33A	4G63 DOHC
	F5M31-2-RPKJ	K	29/36	4.067	F06W	4G54
	VPXZ	K	29/36	4.322	N31W	4G64
	F5M33-2-SNZJ	J	28/36	4.153	F07W	6G72
	W5M33-2-NQZK	Q	30/36	4.933	E39A	4G63 DOHC Intercooler Turbo

NOTE
DOHC: Double overhead camshaft

TRANSMISSION MODEL TABLE – MODEL 1993

Transmission model		Gear ratio	Speedometer gear ratio	Final gear ratio	Vehicle model	Engine model
EC	F5M21-1-VRAA	E	31/36	4.322	C61A	4G13
	VRAC	E	31/36	4.322	C61A	4G13
	VRAE	E	31/36	4.322	CB1A	4G13
	VRJE	E	31/36	4.322	CB1A	4G13
	VRLC	E	31/36	4.322	C62A	4G15
	F5M22-1-FRMA	B	31/36	3.752	C67A	4D68
	FRME	B	31/36	3.752	CB8A, CB8W	4D68
	FRMG	B	31/36	3.752	CB8A, CB8W	4D68
	XPXL	B	29/36	4.592	N33W	4G63
	XPZL	B	29/36	4.592	N11W	4G93
	2-RRGE	B	31/36	4.021	CB4W	4G92
	RRXA	B	31/36	4.021	C66A	4G92
	RRZE	B	31/36	4.021	CB4A	4G92
	VPZF	B	29/36	4.322	E52A	4G93
	VQKF	B	30/36	4.322	E55A	4G63
	VRXA	B	31/36	4.322	C69A	4G93
	VRXE	B	31/36	4.322	CB5A	4G93
	F5M31-1-VPMF	K	29/36	4.322	E57A	4D68 Turbo
	ZPMF	K	29/36	4.913	N18W, N38W	4D68 Turbo
	2-ZPEF	K	29/36	4.913	E54A, E64A	6A12 DOHC
	ZPVF	K	29/36	4.913	E54A, E64A	6A12 DOHC
	ZPXF	K	29/36	4.913	E54A	6A12 DOHC
	ZPXV	K	29/36	4.913	D22A	4G63 DOHC
	F5M33-2-SNEJ	J	28/36	4.153	F16A	6G72 DOHC
	SNXJ	J	28/36	4.153	F16A	6G72
	W5M31-2-VPCE	M	29/36	5.208	CD4W	4G92
	VPXL	M	29/36	5.208	N21W	4G93
	VPXL	O	29/36	5.208	N43W	4G63
	VQBF	O	30/36	5.208	E75A	4G63
	VRCE	M	31/36	5.208	CD4A	4G92
	ZRCA	M	31/36	5.433	C76A	4G92
	W5M33-2-WPBV	Q	29/36	5.443	D27A	4G63 DOHC Intercooler Turbo
	WPXF	Q	29/36	5.443	E88A	6G73 DOHC

NOTE
DOHC: Double overhead camshaft

Transmission model		Gear ratio	Speedometer gear ratio	Final gear ratio	Vehicle model	Engine model
EXP	F5M21-1-RRAE	B	31/36	4.021	CA2A, CB2A	4G15
	VRAE	E	31/36	4.322	CA1A, CB1A, CB2A	4G13
	VRBE	E	31/36	4.322	CB1W, CB2W	4G13
	VRGA	E	31/36	4.322	C62A	4G15
	VRJE	E	31/36	4.322	C97S, C97L	4G15
	VRLA	E	31/36	4.322	C62A	4G15
	F5M22-1-XPLL	B	29/36	4.592	N11W, N31W	4G93
	XPZL	B	29/36	4.592	N11W, N31W	4G93
	2-RRKA	B	31/36	4.021	C66A	4G92
	RRKE	B	31/36	4.021	CB4W	4G92
	VPKF	B	29/36	4.021	E52A	4G93
	VPKF	B	29/36	4.021	E55A	4G63
	VPZF	B	29/36	4.021	E52A	4G93
	VRXG	B	31/36	4.021	C98S, C98L	4G92
	XRXE	B	31/36	4.592	CA5A	4G93
	F5M31-2-ZPVF	K	29/36	4.913	E54A	6A12 DOHC
	F5M33-2-SNQJ	J	28/36	4.153	F16A	6G72, 6G72 DOHC
AUS	F5M21-1-RRBE	B	31/36	4.021	CA2A, CB2A	4G15
	VRLA	E	31/36	4.322	C62A	4G15
	F5M22-2-RRKA	B	31/36	4.021	C66A	4G92
	RRKE	B	31/36	4.021	CA5A, CB5A, CB5W	4G93
	VQKF	B	30/36	4.322	E55A	4G63
	F5M31-2-VNXL	K	28/36	4.322	N34W	4G64
	ZPVF	K	29/36	4.913	E54A	6A12 DOHC
	F5M33-2-SNXJ	J	28/36	4.153	F07W	6G72
	W5M33-2-NRBE	Q	31/36	4.933	CD5A	4G93

NOTE
DOHC: Double overhead camshaft

TRANSMISSION MODEL TABLE – MODEL 1994

Transmission model		Gear ratio	Speedometer gear ratio	Final gear ratio	Vehicle model	Engine model
EC	F5M21-1-VRAE	E	31/36	4.233	CA1A, CB1A	4G13
	VRJE	E	31/36	4.233	CA1A, CB1A	4G13
	F5M22-1-FDTE	B	31/36	3.752	CB8A	4D68
	FRME	B	31/36	3.752	CB8A, CB8W	4D68
	FRMG	B	31/36	3.752	CB8A, CB8W	4D68
	XPXL	B	29/36	4.592	N33W	4G63
	XPZL	B	29/36	4.592	N11W	4G93
	XPZL	B	29/36	4.592	N34W	4G64
	2-FRZE	B	31/36	3.752	CA4A	4G92
	RRGE	B	31/36	4.021	CB4W	4G92
	RRZE	B	31/36	4.021	CA4A, CB4A	4G92
	VPZF	B	29/36	4.233	E52A	4G93
	VQKF	B	30/36	4.233	E55A	4G63
	VRXE	B	31/36	4.233	CA5A, CB5A	4G93
	F5M31-1-VPMF	K	29/36	4.322	E57A	4D68
	ZPML	K	29/36	4.913	N18W, N38W	4D68
	2-ZPEF	K	29/36	4.913	E54A, E64A	6A12 DOHC
	ZPGF	K	29/36	4.913	E54A	6A12 DOHC
	ZPKF	K	29/36	4.913	E54A, E64A	6A12
	ZPXF	K	29/36	4.913	E54A	6A12 DOHC
	F5M33-2-SNEJ	J	28/36	4.153	F16A	6G72 DOHC
	SNXJ	J	28/36	4.153	F16A	6G72, 6G72 DOHC
	W5M31-2-VPCE	M	29/36	5.208	CD4W	4G92
	VPXL	M	29/36	5.208	N21W	4G93
	VPXL	O	29/36	5.208	N43W	4G63
	VQBF	O	30/36	5.208	E75A	4G63
	VRCE	M	31/36	5.208	CC4A	4G92
	W5M33-2-WPXF	Q	29/36	5.443	E88A	6G73 DOHC

NOTE
DOHC: Double overhead camshaft

Transmission model		Gear ratio	Speedometer gear ratio	Final gear ratio	Vehicle model	Engine model
EXP	F5M21-1-FDTE	B	31/36	3.752	CB8A	4D68
	FDTG	B	31/36	3.752	CB8A	4D68
	FRME	B	31/36	3.752	CB8A	4D68
	FRMG	B	31/36	3.752	CB8A	4D68
	RRAE	B	31/36	4.021	CA2A, CB2A	4G15
	RRBE	B	31/36	4.021	CB1A, CB2A	4G15
	RRJC	B	31/36	4.021	C12A	4G15
	RRJE	B	31/36	4.021	CB3A	4G91
	RRXE	B	31/36	4.021	CB4A	4G92
	VRAC	E	31/36	4.322	C12A	4G15
	VRAE	E	31/36	4.322	CA1A, CB1A, CB1W, CB2W	4G13
	VRBE	E	31/36	4.322	CA1A, CB1A, CB1W, CB2W	4G13
	VRJE	E	31/36	4.322	CB1A	4G13
	F5M22-1-FDTG	B	31/36	3.752	CB8A	4D68
	XPLL	B	29/36	4.592	N11W, N31W	4G93
	XPZL	B	29/36	4.592	N11W, N31W	4G93
	2-RRKE	B	31/36	4.021	CB4W	4G92
	RRXE	B	31/36	4.021	CA4A, CB4A	4G92
	VPKF	B	29/36	4.322	E52A	4G93
	VPKF	B	29/36	4.322	E55A	4G63
	VPZF	B	29/36	4.322	E52A	4G93
	VRXE	B	31/36	4.322	CA5A	4G93
	VRZE	B	31/36	4.322	CB5A	4G93
	F5M31-2-ZPKF	K	29/36	4.913	E54A	6A12 DOHC
	F5M33-2-SNQJ	J	28/36	4.153	F16A	6G72, 6G72 DOHC
AUS	F5M22-2-VQKF	B	30/36	4.322	E55A	4G63
	F5M31-2-VNXL	K	28/36	4.322	N34W	4G64
	ZPKF	K	29/36	4.913	E54A	6A12 DOHC

NOTE
DOHC: Double overhead camshaft

TRANSMISSION MODEL TABLE – MODEL 1995

Transmission model		Gear ratio	Speedometer gear ratio	Final gear ratio	Vehicle model	Engine model
EC	F5M21-1-VRAE	E	31/36	4.322	CA1A, CB1A	4G13
	VRJE	E	31/36	4.322	CA1A, CB1A	4G13
	F5M22-1-FDTE	B	31/36	3.752	CB8A	4D68
	FRME	B	31/36	3.752	CB8A, CB8W	4D68
	FRMG	B	31/36	3.752	CB8A, CB8W	4D68
	2-FRZE	B	31/36	3.752	CB4A	4G92
	RRGE	B	31/36	4.021	CB4W	4G92
	RRZE	B	31/36	4.021	CB4A	4G92
	VRXE	B	31/36	4.322	CB5A	4G93
	VVZF	B	29/36	4.322	E52A	4G93
	VWKF	B	30/36	4.322	E55A	4G63
	F5M31-1-VVMF	K	29/36	4.322	E57A	4D68
	ZPML	K	29/36	4.913	N18W, N38W	4D68
	2-VPXL	K	29/36	4.322	N34W	4G64
	ZVEF	K	29/36	4.913	E54A	6A12
	ZVGF	K	29/36	4.913	E54A	6A12
	ZVKF	K	29/36	4.913	E54A	6A12
	ZVXF	K	29/36	4.913	E54A	6A12
	F5M33-2-SNEJ	J	28/36	4.153	F16A	6G72 DOHC
	SNXJ	J	28/36	4.153	F16A	6G72
	W5M31-2-TPCE	M	29/36	5.124	CD4W	4G92
	TPXL	O	29/36	5.124	N21W, N43W	4G63
	VRCE	M	31/36	5.208	CC4A	4G92
	VWBF	O	30/36	5.208	E75A	4G63
	W5M33-2-WVXF	Q	29/36	5.443	E88A	6G73

NOTE
DOHC: Double overhead camshaft

Transmission model		Gear ratio	Speedometer gear ratio	Final gear ratio	Vehicle model	Engine model
EXP	F5M21-1-RRAE	B	31/36	4.021	CA2A, CB2A	4G15
	RRBE	B	31/36	4.021	CB2A	4G15
	VRAE	E	31/36	4.322	CA1A, CB1A, CB1W, CB2W	4G13
	VRBE	E	31/36	4.322	CA1A, CB1A, CB1W, CB2W	4G13
	VRJE	E	31/36	4.322	CB2A	4G15
	F5M22-1-FDTE	B	31/36	3.752	CB8A	4D68
	FDTG	B	31/36	3.752	CB8A	4D68
	FRME	B	31/36	3.752	CB8A	4D68
	FRMG	B	31/36	3.752	CB8A	4D68
	XPLL	B	29/36	4.592	N31W	4G93
	XPXL	B	29/36	4.592	N33W	4G63
	2-RRKE	B	31/36	4.021	CA5A, CB4W	4G93
	RRXE	B	31/36	4.021	CA4A, CB4W	4G92
	VRXE	B	31/36	4.322	CA5A	4G93
	VRZE	B	31/36	4.322	CB5A	4G93
	VVKF	B	29/36	4.322	E52A, E55A	4G93
	VVZF	B	29/36	4.322	E52A	4G93
	F5M31-2-ZPKF	K	29/36	4.913	E54A	6A12 DOHC
	ZVKF	K	29/36	4.913	E54A	6A12 DOHC
	F5M33-2-SNQJ	J	28/36	4.153	F16A	6G72
AUS	F5M21-1-RRBE	B	31/36	4.021	CA2A, CB2A	4G15
	F5M22-2-RRKE	B	31/36	4.021	CA5A, CB5A, CB5W	4G93
	VWKF	B	30/36	4.322	E55A	4G63
	F5M31-2-VPXL	K	29/36	4.322	N34W	4G64
	ZVKF	K	29/36	4.913	E54A	6A12 DOHC
	W5M33-2-NRBE	Q	31/36	4.933	CD5A	4G93

NOTE
DOHC: Double overhead camshaft

TRANSMISSION MODEL TABLE – MODEL 1996

Transmission model		Gear ratio	Speedometer gear ratio	Final gear ratio	Vehicle model	Engine model
EC	F5M22-1-XPXL	B	29/36	4.322	N33W	4G63
	XPZL	B	29/36	4.322	N11W	4G93
	2-VVZF	B	29/36	4.322	E52A	4G93
	VWKF	B	30/36	4.322	E55A	4G63
	F5M31-1-ZPML	K	29/36	4.913	N18W, N38W	4D68 Turbo
	2-VPXL	K	29/36	4.322	N34W	4G64
	VVMF	K	29/36	4.322	E57A	4D68 Turbo
	ZVEF	K	29/36	4.913	E54A	6A12 DOHC
	ZVGF	K	29/36	4.913	E54A	6A12 DOHC
	ZVKF	K	29/36	4.913	E54A	6A12 DOHC
	ZVXF	K	29/36	4.913	E54A	6A12 DOHC
	ZVZT	K	29/36	4.913	D32A	4G63 DOHC Intercooler Turbo
	W5M31-2-TPXL	O	29/36	5.124	N21W, N43W	4G63
	VWBF	O	30/36	5.208	E75A	4G63
	W5M33-2-WVXF	Q	29/36	5.443	E88A	6G73 DOHC
EXP	F5M22-1-VPXL	B	29/36	4.322	E55A	4G63
	XPLL	B	29/36	4.322	N31W	4G93
	XPXL	B	29/36	4.322	N33W	4G63
	XPZL	B	29/36	4.322	N11W	4G93
	2-VVKF	B	29/36	4.322	E52A	4G93
	VVKF	B	29/36	4.322	E55A	4G63
	VVZF	B	29/36	4.322	E52A	4G93
	F5M31-2-ZVKF	K	29/36	4.913	E54A	6A12, 6A12 DOHC
	F5M33-2-SNQJ	J	28/36	4.153	F16A	6G72, 6G72 DOHC
AUS	F5M21-1-RRBE	B	31/36	4.021	CA2A, CB2A	4G15
	F5M22-2-RRKF	B	31/36	4.021	CA5A, CB5A, CB5W	4G93
	VWKF	B	30/36	4.322	E54A	4G63
	F5M31-2-XPXL	K	29/36	4.511	N34W	4G64
	ZVKF	K	29/36	4.913	E55A	6A12 DOHC

NOTE
DOHC: Double overhead camshaft

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GEAR RATIO TABLE

FOR FRONT WHEEL DRIVE

	A	B	C	D	E
1st	3.363	3.363	3.454	3.363	3.083
2nd	1.947	1.947	1.947	1.947	1.947
3rd	1.285	1.285	1.285	1.285	1.285
4th	0.939	0.939	0.937	0.939	0.939
5th	–	0.756	0.756	0.777	0.756
Reverse	3.083	3.083	3.083	3.083	3.083

	F	G	H	I	J	K
1st	3.166	3.166	3.250	3.166	3.090	2.846
2nd	1.833	1.833	1.833	1.833	1.833	1.833
3rd	1.240	1.240	1.240	1.240	1.217	1.217
4th	0.860	0.896	0.896	0.896	0.888	0.888
5th	0.731	0.690	0.690	0.731	0.741	0.731
Reverse	3.166	3.166	3.166	3.166	3.166	3.166

FOR FOUR WHEEL DRIVE

	L	M	N	O	P	Q
1st	3.083	3.083	2.846	2.846	2.916	2.846
2nd	1.684	1.684	1.684	1.684	1.684	1.684
3rd	1.115	1.115	1.115	1.115	1.115	1.115
4th	0.806	0.806	0.833	0.833	0.833	0.833
5th	0.651	0.651	0.651	0.690	0.666	0.666
Reverse	3.166	3.166	3.166	3.166	3.166	3.166
Transfer	0.875	1.090	1.090	1.090	1.090	1.090

SERVICE SPECIFICATIONS

FOR FRONT WHEEL DRIVE

mm (in.)

	Standard
Transmission	
Input shaft bearing end play	0.01 – 0.12 (0.0004 – 0.0047)
Input shaft preload	0 – 0.05 (0 – 0.002): F5M33
Input shaft rear bearing end play	0 – 0.09 (0 – 0.0035): F5M21, F5M22, F5M31, F5M33
Intermediate gear bearing end play	0.01 – 0.14 (0.0004 – 0.0055): F4M21, F5M21, F5M22, F5M33
	0.01 – 0.11 (0.0004 – 0.0044): F5M31
Intermediate gear end play	0.05 – 0.17 (0.002 – 0.007): F4M21, F5M21
Intermediate gear preload	0.05 – 0.10 (0.002 – 0.004): F5M22, F5M31, F5M33
Output shaft end play (Up to JUN. 1987)	0.05 – 0.17 (0.002 – 0.007): F4M21, F5M21
Output shaft preload (From JUL. 1987)	0.05 – 0.10 (0.002 – 0.004): F4M21, F5M21, F5M33
Output shaft preload	0.05 – 0.10 (0.002 – 0.004): F5M22, F5M31, F5M33
Differential	
Differential case end play	0.05 – 0.17 (0.002 – 0.007): F4M21, F5M21
Differential case preload	0.05 – 0.10 (0.002 – 0.004): F5M22, F5M31, F5M33
Differential pinion backlash	0.025 – 0.150 (0.001 – 0.006)

FOR FOUR WHEEL DRIVE

mm (in.)

	Standard
Transmission	
Input shaft end play	0 – 0.05 (0 – 0.0020): W5M33
Input shaft front bearing end play	0.01 – 0.12 (0.0004 – 0.0047): W5M31
Input shaft rear bearing end play	0 – 0.09 (0 – 0.0035)
Intermediate gear bearing end play	0.01 – 0.11 (0.0004 – 0.0043): W5M31
	0.01 – 0.14 (0.0004 – 0.0055): W5M33
Intermediate gear preload	0.08 – 0.13 (0.0031 – 0.0051)
Front output shaft preload	0.08 – 0.13 (0.0031 – 0.0051)
Center differential	
Clutch gear end play	0.10 – 0.26 (0.0039 – 0.0102)
Viscous coupling end play	0.10 – 0.26 (0.0039 – 0.0102)
Differential case preload	0.08 – 0.13 (0.0031 – 0.0051)
Differential side gear end play	0.05 – 0.25 (0.0020 – 0.0100)
Front differential	
Differential case end play	0.05 – 0.17 (0.0020 – 0.0067)
Differential pinion backlash	0.025 – 0.150 (0.0010 – 0.0059)
Transfer	
Bevel gear set backlash	0.08 – 0.13 (0.0031 – 0.0051)
Drive bevel gear shaft rotating torque	1.7 – 2.5 Nm (1.23 – 1.81 ft.lbs.)
Driven bevel gear rotating torque	1.0 – 1.7 Nm (0.72 – 1.23 ft.lbs.)

SEALANTS AND ADHESIVES

	Specified sealants and adhesives	Quantity
Transmission case – rear cover mating surfaces	Mitsubishi genuine sealant Part No. MD997740 or equivalent	As required
Transmission case – clutch housing mating surfaces	Mitsubishi genuine sealant Part No. MD997740 or equivalent	As required
Adapter (Four wheel drive model only) – transmission case mating surfaces	Mitsubishi genuine sealant Part No. MD997740 or equivalent	As required
Adapter (Four wheel drive model only) – rear cover mating surfaces	Mitsubishi genuine sealant Part No. MD997740 or equivalent	As required
Output gear bolt (Four wheel drive model only)	3M STUD Locking No. 4170 or equivalent	As required
Differential drive gear bolts	3M STUD Locking No. 4170 or equivalent	As required
Bearing retainer bolt (Countersink head bolt only)	3M STUD Locking No. 4170 or equivalent	As required
Air breather	3M SUPER WEATHERSTRIP No. 8001 or equivalent	As required
Transfer extension housing – adapter mating surfaces	THREE BOND TB1216 or equivalent	As required
Transfer cover gasket	3M ATD Part No. 8660 or equivalent	As required

ADJUSTMENT SNAP RINGS AND SPACERS

Part name	Thickness mm (in.)	Identification symbol	Part No.
Snap ring (For adjustment of input shaft front bearing end play)	2.24 (0.0882)	None	MD706537
	2.31 (0.0909)	Blue	MD706538
	2.38 (0.0937)	Brown	MD706539
Snap ring: F5M21, F5M22 (For adjustment of input shaft rear bearing end play)	1.80 (0.0709)	Blue	MD730785
	1.87 (0.0736)	White	MD730786
	1.94 (0.0764)	None	MD730787
	2.01 (0.0791)	Green	MD730788
	2.08 (0.0819)	Yellow	MD730834
	2.15 (0.0846)	Brown	MD730835
Snap ring: F5M31, F5M33, W5M31, W5M33 (For adjustment of input shaft rear bearing end play)	1.40 (0.0551)	Blue	MD723276
	1.45 (0.0571)	Purple	MD730889
	1.50 (0.0591)	Red	MD723277
	1.55 (0.0610)	White	MD730890
	1.60 (0.0630)	Yellow	MD723278
	1.65 (0.0650)	Brown	MD730891
	1.70 (0.0670)	Green	MD723279
	1.75 (0.0689)	Orange	MD730892
Spacer: F5M33, W5M33 (For adjustment of input shaft preload)	0.80 (0.0315)	80	MD727661
	0.83 (0.0327)	83	MD720937
	0.86 (0.0338)	86	MD720938
	0.89 (0.0350)	89	MD720939
	0.92 (0.0362)	92	MD720940
	0.95 (0.0374)	95	MD720941
	0.98 (0.0386)	98	MD720942
	1.01 (0.0398)	01	MD720943
	1.04 (0.0409)	04	MD720944
	1.07 (0.0421)	07	MD720945
	1.10 (0.0433)	J	MD710454
	1.13 (0.0445)	D	MD700270
	1.16 (0.0457)	K	MD710455
	1.19 (0.0468)	L	MD710456
	1.22 (0.0480)	G	MD700271
	1.25 (0.0492)	M	MD710457
	1.28 (0.0504)	N	MD710458
	1.31 (0.0561)	E	MD706574
	1.34 (0.0527)	O	MD710459
	1.37 (0.0539)	P	MD710460
	1.40 (0.0551)	–	MD706573
	1.43 (0.0563)	Q	MD710461
	1.46 (0.0575)	R	MD710462

Part name	Thickness mm (in.)	Identification symbol	Part No.
Snap ring: F4M21, F5M21, F5M22, F5M33 ..... (For adjustment of intermediate gear front bearing end play)	1.40 (0.0551)	None	MD703779
	1.50 (0.0591)	Brown	MD703780
	1.60 (0.0630)	Blue	MD703781
Snap ring: F5M31 ..... (For adjustment of intermediate gear front bearing end play)	1.40 (0.0551)	Blue	MD723276
	1.50 (0.0591)	Red	MD723277
	1.60 (0.0630)	Yellow	MD723278
	1.70 (0.0670)	Green	MD723279
Spacer: F4M21, F5M21 ..... (For adjustment of intermediate gear end play)	0.47 (0.0185)	47	MD736750
	0.56 (0.0220)	56	MD720969
	0.65 (0.0256)	65	MD720970
	0.74 (0.0291)	74	MD720971
	0.83 (0.0327)	83	MD720972
	0.92 (0.0362)	92	MD720973
	1.01 (0.0394)	01	MD720974
	1.10 (0.0433)	10	MD718511
	1.19 (0.0469)	19	MD736751
Spacer: F5M22 ..... (For adjustment of intermediate gear preload)	0.62 (0.0244)	62	MD736752
	0.65 (0.0256)	65	MD736753
	0.68 (0.0268)	68	MD735663
	0.71 (0.0280)	71	MD735664
	0.74 (0.0291)	74	MD735665
	0.77 (0.0303)	77	MD735666
	0.80 (0.0315)	80	MD723307
	0.83 (0.0327)	83	MD723308
	0.86 (0.0338)	86	MD723309
	0.89 (0.0350)	89	MD723310
	0.92 (0.0362)	92	MD723311
	0.95 (0.0374)	95	MD723312
	0.98 (0.0394)	98	MD723313
	1.01 (0.0398)	01	MD723314
	1.04 (0.0409)	04	MD723315
	1.07 (0.0421)	07	MD723316
	1.10 (0.0433)	10	MD723317
	1.13 (0.0445)	13	MD723318
	1.16 (0.0457)	16	MD723319
	1.19 (0.0468)	19	MD723320
	1.22 (0.0480)	22	MD723321
	1.25 (0.0492)	25	MD723322
	1.28 (0.0504)	28	MD723323
	1.31 (0.0516)	31	MD723324
	1.34 (0.0527)	34	MD723325
	1.37 (0.0539)	37	MD723326

Part name	Thickness mm (in.)	Identification symbol	Part No.
Spacer: F5M31, F5M33 ..... (For adjustment of intermediate gear preload)	0.68 (0.0268)	68	MD735659
	0.71 (0.0280)	71	MD735660
	0.74 (0.0291)	74	MD735661
	0.77 (0.0303)	77	MD735662
	0.80 (0.0315)	80	MD724142
	0.83 (0.0327)	83	MD724143
	0.86 (0.0338)	86	MD724144
	0.89 (0.0350)	89	MD724145
	0.92 (0.0362)	92	MD724146
	0.95 (0.0374)	95	MD724147
	0.98 (0.0386)	98	MD724148
	1.01 (0.0398)	01	MD724149
	1.04 (0.0409)	04	MD724150
	1.07 (0.0421)	07	MD724151
	1.10 (0.0433)	10	MD724152
	1.13 (0.0445)	13	MD724153
	1.16 (0.0457)	16	MD724154
	1.19 (0.0468)	19	MD724155
	1.22 (0.0480)	22	MD724156
	1.25 (0.0492)	25	MD724157
	1.28 (0.0504)	28	MD724158
	1.31 (0.0516)	31	MD724159
	1.34 (0.0527)	34	MD724160
	1.37 (0.0539)	37	MD724161
Spacer: W5M31 ..... (For adjustment of intermediate gear preload)	1.19 (0.0468)	19	MD720962
	1.22 (0.0480)	22	MD720961
	1.25 (0.0492)	25	MD712346
	1.28 (0.0504)	28	MD712347
	1.31 (0.0516)	31	MD712348
	1.34 (0.0527)	34	MD712349
	1.37 (0.0539)	37	MD712329
	1.40 (0.0551)	40	MD712330
	1.43 (0.0563)	43	MD712331
	1.46 (0.0575)	46	MD712332
	1.49 (0.0587)	49	MD712333
	1.52 (0.0598)	52	MD712334
	1.55 (0.0610)	55	MD712335
	1.58 (0.0622)	58	MD712336
	1.61 (0.0634)	61	MD712337
	1.64 (0.0646)	64	MD712338
	1.67 (0.0657)	67	MD712339
	1.70 (0.0669)	70	MD712340
	1.73 (0.0681)	73	MD712341
	1.76 (0.0692)	76	MD712342
	1.79 (0.0705)	79	MD712343
	1.82 (0.0716)	82	MD712344
	1.85 (0.0728)	85	MD712345

Part name	Thickness mm (in.)	Identification symbol	Part No.
Spacer W5M33 ..... (For adjustment of intermediate gear preload)	0.80 (0.0315)	80	MD720948
	0.83 (0.0327)	83	MD720949
	0.86 (0.0338)	86	MD720950
	0.89 (0.0350)	89	MD720951
	0.92 (0.0362)	92	MD720952
	0.95 (0.0374)	95	MD720953
	0.98 (0.0386)	98	MD720954
	1.01 (0.0398)	01	MD720955
	1.04 (0.0409)	04	MD720956
	1.07 (0.0421)	07	MD720957
	1.10 (0.0433)	10	MD720958
	1.13 (0.0445)	13	MD720595
	1.16 (0.0457)	16	MD720960
	1.19 (0.0468)	19	MD720961
	1.22 (0.0480)	22	MD720962
	1.25 (0.0492)	25	MD712346
	1.28 (0.0504)	28	MD712347
	1.31 (0.0561)	31	MD712348
	1.34 (0.0527)	34	MD712349
	1.37 (0.0539)	37	MD712329
	1.40 (0.0551)	40	MD712330
	1.43 (0.0563)	43	MD712331
Spacer: F4M21, F5M21: Up to JUN. 1987 ..... (For adjustment of output shaft end play)	0.65 (0.0256)	65	MD720946
	0.74 (0.0291)	74	MD720947
	0.83 (0.0327)	83	MD720949
	0.92 (0.0392)	92	MD720952
	1.01 (0.0398)	01	MD720955
	1.10 (0.0433)	10	MD720958
Spacer: F4M21, F5M21: From JUL. 1987, F5M22 ..... (For adjustment of output shaft preload)	0.74 (0.0291)	74	MD720947
	0.77 (0.0303)	77	MD736756
	0.80 (0.0315)	80	MD720948
	0.83 (0.0327)	83	MD720949
	0.86 (0.0338)	86	MD720950
	0.89 (0.0350)	89	MD720951
	0.92 (0.0362)	92	MD720952
	0.95 (0.0374)	95	MD720953
	0.98 (0.0386)	98	MD720954
	1.01 (0.0398)	01	MD720955
	1.04 (0.0409)	04	MD720956
	1.07 (0.0421)	07	MD720957

Part name	Thickness mm (in.)	Identification symbol	Part No.
Spacer: F4M21, F5M21: From JUL. 1987, F5M22 ..... (For adjustment of output shaft preload)	1.10 (0.0433)	10	MD720958
	1.13 (0.0445)	13	MD720959
	1.16 (0.0457)	16	MD720960
	1.19 (0.0468)	19	MD720961
	1.22 (0.0480)	22	MD720362
	1.25 (0.0492)	25	MD712346
	1.28 (0.0504)	28	MD712347
	1.31 (0.0516)	31	MD712348
	1.34 (0.0527)	34	MD712349
Spacer: F5M31, F5M33 ..... (For adjustment of output shaft preload)	0.83 (0.0327)	83	MD720937
	0.86 (0.0338)	86	MD720938
	0.89 (0.0350)	89	MD720939
	0.92 (0.0362)	92	MD720940
	0.95 (0.0374)	95	MD720941
	0.98 (0.0386)	98	MD720942
	1.01 (0.0398)	01	MD720943
	1.04 (0.0409)	04	MD720944
	1.07 (0.0421)	07	MD720945
	1.10 (0.0433)	J	MD710454
	1.13 (0.0445)	D	MD700270
	1.16 (0.0457)	K	MD710455
	1.19 (0.0468)	L	MD710456
	1.22 (0.0480)	G	MD700271
	1.25 (0.0492)	M	MD710457
	1.28 (0.0504)	N	MD710458
	1.31 (0.0516)	E	MD706574
	1.34 (0.0527)	O	MD710459
Spacer: F4M21, F5M21, W5M31, W5M33 ..... (For adjustment of front differential case end play)	0.56 (0.0220)	56	MD727658
	0.65 (0.0256)	65	MD727659
	0.74 (0.0291)	74	MD727660
	0.83 (0.0327)	83	MD720937
	0.92 (0.0362)	92	MD720940
	1.01 (0.0398)	01	MD720943
	1.10 (0.0433)	J	MD710454
	1.19 (0.0468)	L	MD710456
	1.28 (0.0504)	N	MD710458
	1.37 (0.0539)	P	MD710460
Spacer: F5M22, F5M31, F5M33 ..... (For adjustment of front differential case preload)	0.80 (0.0315)	80	MD727661
	0.83 (0.0327)	83	MD720937
	0.86 (0.0338)	86	MD720938
	0.89 (0.0350)	89	MD720939
	0.92 (0.0362)	92	MD720940
	0.95 (0.0374)	95	MD720941
	0.98 (0.0386)	98	MD720942

Part name	Thickness mm (in.)	Identification symbol	Part No.
Spacer: F5M22, F5M31, F5M33 ..... (For adjustment of front differential case preload)	1.01 (0.0398)	01	MD720943
	1.04 (0.0409)	04	MD720944
	1.07 (0.0421)	07	MD720945
	1.10 (0.0433)	J	MD710454
	1.13 (0.0445)	D	MD700270
	1.16 (0.0457)	K	MD710455
	1.19 (0.0468)	L	MD710456
	1.22 (0.0480)	G	MD700271
	1.25 (0.0492)	M	MD710457
Spacer ..... (For adjustment of front differential pinion backlash)	0.75 – 0.82 (0.0295 – 0.0323)	–	MA180862
	0.83 – 0.92 (0.0327 – 0.0362)	–	MA180861
	0.93 – 1.00 (0.0366 – 0.0394)	–	MA180860
	1.01 – 1.08 (0.0398 – 0.0425)	–	MA180875
	1.09 – 1.16 (0.0429 – 0.0457)	–	MA180876
Spacer: W5M31, W5M33 ..... (For adjustment of front output shaft preload)	1.28 (0.0504)	B28	MD726167
	1.31 (0.0516)	B31	MD726168
	1.34 (0.0527)	B34	MD726169
	1.37 (0.0539)	B37	MD724326
	1.40 (0.0551)	B40	MD724327
	1.43 (0.0563)	B43	MD724328
	1.46 (0.0575)	B46	MD724329
	1.49 (0.0587)	B49	MD724330
	1.52 (0.0598)	B52	MD724331
	1.55 (0.0610)	B55	MD724332
	1.58 (0.0622)	B58	MD724333
	1.61 (0.0634)	B61	MD724334
	1.64 (0.0646)	B64	MD724335
	1.67 (0.0657)	B67	MD724336
	1.70 (0.0669)	B70	MD724337
	1.73 (0.0681)	B73	MD724338
	1.76 (0.0692)	B76	MD724339
	1.79 (0.0705)	B79	MD724340
	1.82 (0.0716)	B82	MD724341
	1.85 (0.0728)	B85	MD724342
	1.88 (0.0740)	B88	MD724343
	1.91 (0.0751)	B91	MD724344

Part name	Thickness mm (in.)	Identification symbol	Part No.
Snap ring: W5M31, W5M33 ..... [For adjustment of clutch gear end play (with diff.lock) and viscous coupling end play (with VCU)]	1.3 (0.0512)	Orange	MD727650
	1.4 (0.0551)	Red	MD720686
	1.5 (0.0591)	Blue	MD720687
	1.6 (0.0630)	None	MD720688
	1.7 (0.0669)	White	MD720689
	1.8 (0.0709)	Yellow	MD720690
	1.9 (0.0748)	Green	MD727651
Spacer: W5M31 ..... (For adjustment of center differential pinion backlash, front side)	0.59 – 0.66 (0.0232 – 0.0260)	73	MD724973
	0.67 – 0.74 (0.0264 – 0.0291)	47	MD724947
	0.75 – 0.82 (0.0295 – 0.0323)	46	MD724946
	0.83 – 0.92 (0.0327 – 0.0362)	45	MD724945
	0.93 – 1.00 (0.0366 – 0.0394)	81	MD720681
	1.01 – 1.08 (0.0398 – 0.0425)	44	MD724944
	1.09 – 1.16 (0.0429 – 0.0457)	43	MD724943
	1.17 – 1.24 (0.0421 – 0.0488)	42	MD724942
	1.25 – 1.32 (0.0492 – 0.0520)	72	MD724972
Spacer: W5M33 ..... (For adjustment of center differential pinion backlash, front side)	2.09 – 2.16 (0.0823 – 0.0850)	0	MD741413
	2.17 – 2.24 (0.0854 – 0.0882)	9	MD741412
	2.25 – 2.32 (0.0886 – 0.0913)	8	MD741411
	2.33 – 2.42 (0.0917 – 0.0953)	7	MD741410
	2.43 – 2.50 (0.0857 – 0.0984)	6	MD741409
	2.51 – 2.58 (0.0988 – 0.1016)	5	MD741408
	2.59 – 2.66 (0.1020 – 0.1047)	4	MD741407
	2.67 – 2.74 (0.1050 – 0.1079)	3	MD741406
	2.75 – 2.82 (0.1083 – 0.1110)	2	MD741405

Part name	Thickness mm (in.)	Identification symbol	Part No.
Spacer: W5M31 (For adjustment of center differential case preload)	1.13 (0.0445)	13	MD736928
	1.16 (0.0457)	16	MD736929
	1.19 (0.0468)	19	MD736751
	1.22 (0.0480)	22	MD736931
	1.25 (0.0492)	25	MD726166
	1.28 (0.0504)	28	MD718517
	1.31 (0.0516)	31	MD718518
	1.34 (0.0527)	34	MD718519
	1.37 (0.0539)	37	MD718520
	1.40 (0.0551)	40	MD718521
	1.43 (0.0563)	43	MD718522
	1.46 (0.0575)	46	MD718523
	1.49 (0.0587)	49	MD718524
	1.52 (0.0598)	52	MD718525
	1.55 (0.0610)	55	MD718526
	1.58 (0.0622)	58	MD718527
	1.61 (0.0634)	61	MD718528
	1.64 (0.0646)	64	MD718529
	1.67 (0.0657)	67	MD718530
	1.70 (0.0669)	70	MD718531
	1.73 (0.0681)	73	MD721959
	1.76 (0.0692)	76	MD721960
	1.79 (0.0705)	79	MD721961
Spacer: W5M31, W5M33 (For adjustment of center differential pinion backlash, rear side)	0.59 – 0.66 (0.0232 – 0.0260)	74	MD724974
	0.67 – 0.74 (0.0264 – 0.0291)	50	MD724950
	0.75 – 0.82 (0.0295 – 0.0323)	80	MD720680
	0.83 – 0.92 (0.0327 – 0.0362)	79	MD720679
	0.93 – 1.00 (0.0366 – 0.0394)	78	MD720678
	1.01 – 1.08 (0.0398 – 0.0425)	76	MD720676
	1.09 – 1.16 (0.0429 – 0.0457)	77	MD720677
	1.17 – 1.24 (0.0421 – 0.0488)	49	MD724949

Part name	Thickness mm (in.)	Identification symbol	Part No.
Spacer: W5M31, W5M33 ..... (For adjustment of drive bevel gear mount)	1.34 (0.0528)	34	MD723600
	1.37 (0.0539)	37	MD723601
	1.40 (0.0551)	40	MD723602
	1.43 (0.0563)	43	MD723603
	1.46 (0.0575)	46	MD723604
	1.49 (0.0587)	49	MD723605
	1.52 (0.0598)	52	MD723606
	1.55 (0.0610)	55	MD723607
	1.58 (0.0622)	58	MD723608
	1.61 (0.0634)	61	MD723609
	1.64 (0.0646)	64	MD726170
	1.67 (0.0657)	67	MD726171
Spacer: W5M31, W5M33 ..... (For adjustment of drive bevel gear preload)	1.28 (0.0504)	B28	MD726167
	1.31 (0.0516)	B31	MD726168
	1.34 (0.0528)	B34	MD726169
	1.37 (0.0539)	B37	MD724326
	1.40 (0.0551)	B40	MD724327
	1.43 (0.0563)	B43	MD724328
	1.46 (0.0575)	B46	MD724329
	1.49 (0.0587)	B49	MD724330
	1.52 (0.0598)	B52	MD724331
	1.55 (0.0610)	B55	MD724332
	1.58 (0.0622)	B58	MD724333
	1.61 (0.0634)	B61	MD724334
	1.64 (0.0646)	B64	MD724335
	1.67 (0.0657)	B67	MD724336
	1.70 (0.0669)	B70	MD724337
	1.73 (0.0681)	B73	MD724338
	1.76 (0.0693)	B76	MD724339
	1.79 (0.0705)	B79	MD724340
	1.82 (0.0717)	B82	MD724341
	1.85 (0.0728)	B85	MD724342
Spacer: W5M31, W5M33 ..... (For adjustment of driven bevel gear mount)	0.13 (0.0051)	13	MD720353
	0.16 (0.0063)	16	MD720354
	0.19 (0.0075)	19	MD720355
	0.22 (0.0087)	22	MD720356
	0.25 (0.0098)	25	MD720357
	0.28 (0.0110)	28	MD720358
	0.31 (0.0122)	31	MD720359
	0.34 (0.0134)	34	MD720360
	0.37 (0.0146)	37	MD720361
	0.40 (0.0157)	40	MD720362
	0.43 (0.0169)	43	MD720363
	0.46 (0.0181)	46	MD720364
	0.49 (0.0193)	49	MD720365
	0.52 (0.0205)	52	MD720366

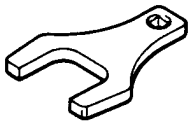
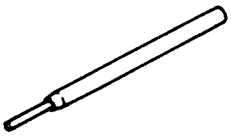
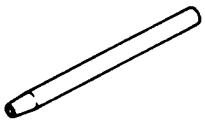
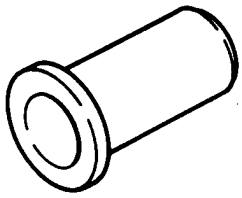
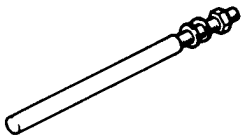
Added

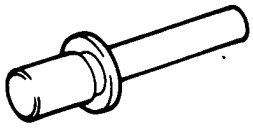
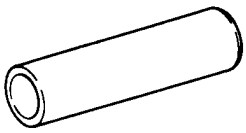
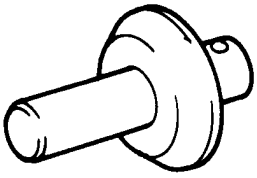
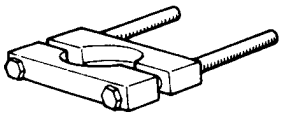
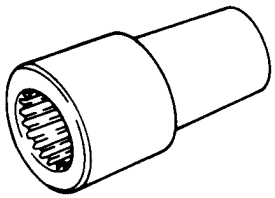
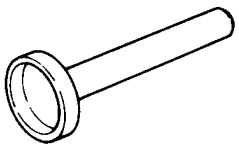
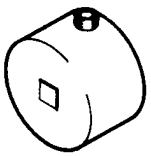
Part name	Thickness mm (in.)	Identification symbol	Part No.
Spacer: W5M31, W5M33 ..... (For adjustment of driven bevel gear preload)	1.19 (0.0469)	19	MD726172
	1.22 (0.0480)	22	MD722081
	1.25 (0.0492)	25	MD722082
	1.28 (0.0504)	28	MD722083
	1.31 (0.0516)	31	MD722084
	1.34 (0.0528)	34	MD722085
	1.37 (0.0539)	37	MD722086
	1.40 (0.0551)	40	MD722087
	1.43 (0.0563)	43	MD722088
	1.46 (0.0575)	46	MD722089
	1.49 (0.0587)	49	MD722090
	1.52 (0.0598)	52	MD722091
	1.55 (0.0610)	55	MD722092
	1.58 (0.0622)	58	MD722093
	1.61 (0.0634)	61	MD722094
	1.64 (0.0646)	64	MD722095
	1.67 (0.0657)	67	MD722096
	1.70 (0.0669)	70	MD722097
	1.73 (0.0681)	73	MD722098
	1.76 (0.0693)	76	MD722099
	1.79 (0.0705)	79	MD722100
	1.82 (0.0717)	82	MD722101
	1.85 (0.0728)	85	MD722102
	1.88 (0.0740)	88	MD722103
	1.91 (0.0752)	91	MD722104
	1.94 (0.0764)	94	MD722105

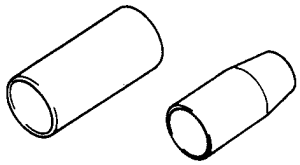
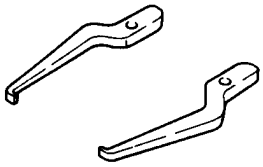
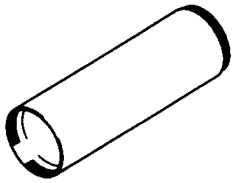
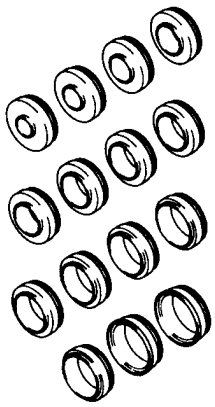
TORQUE SPECIFICATIONS

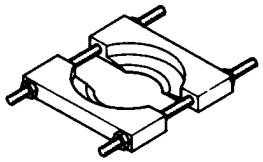
	Torque		
	Nm	kgm	ft.lbs.
Transmission			
Backup light switch	30 – 35	3.0 – 3.5	22 – 25
Bearing retainer bolt	15 – 22	1.5 – 2.2	11 – 15
Bell housing cover mounting bolt	8.0 – 10	0.8 – 1.0	5.8 – 7.2
Center differential lock actuator mounting bolt (Four wheel drive model only)	15 – 22	1.5 – 2.2	11 – 15
Center differential lock indicator lamp switch (Four wheel drive model only)	30 – 35	3.0 – 3.5	22 – 25
Center differential shift lever mounting bolt (Four wheel drive model only)	15 – 22	1.5 – 2.2	11 – 15
Differential drive gear bolt	130 – 140	13 – 14	94 – 101
Input shaft lock nut	140 – 160	14 – 16	102 – 115
Interlock plate bolt	20 – 27	2.0 – 2.7	15 – 19
Intermediate gear lock nut	140 – 160	14 – 16	102 – 115
Oil drain plug	30 – 35	3.0 – 3.5	22 – 25
Oil filler plug	30 – 35	3.0 – 3.5	22 – 25
Output gear mounting bolt	70 – 80	7.0 – 8.0	51 – 57
Poppet plug	30 – 42	3.0 – 4.2	22 – 30
Rear cover bolt (Four wheel drive model only)	35 – 42	3.5 – 4.2	26 – 30
Rear cover bolt (Front wheel drive model only)	15 – 22	1.5 – 2.2	11 – 15
Restrict ball	30 – 35	3.0 – 3.5	22 – 25
Reverse brake cone machine screw	6.5 – 7.5	0.65 – 0.75	4.7 – 5.4
Reverse idler gear shaft bolt	43 – 55	4.3 – 5.5	32 – 39
Reverse shift lever assembly attaching bolt	15 – 22	1.5 – 2.2	11 – 15
Select lever mounting bolt	15 – 22	1.5 – 2.2	11 – 15
Shift cable bracket mounting bolt	15 – 22	1.5 – 2.2	11 – 15
Speedometer sleeve bolt	3.0 – 5.0	0.3 – 0.5	2.5 – 3.5
Starter motor mounting bolt	22 – 32	2.2 – 3.2	16 – 23
Stopper bracket bolt	15 – 22	1.5 – 2.2	11 – 15
Transmission case tightening bolt	35 – 42	3.5 – 4.2	26 – 30
Transmission mount bracket mounting bolt	60 – 80	6.0 – 8.0	44 – 57
Transmission mounting bolt			
[10 mm diameter bolt]	43 – 55	4.3 – 5.5	32 – 39
[8 mm diameter bolt]	22 – 32	2.2 – 3.2	16 – 23
[6 mm diameter bolt]	10 – 12	1.0 – 1.2	7.3 – 8.6
Transmission switch (Front wheel drive model only)	30 – 35	3.0 – 3.5	22 – 25
Transfer			
Cover mounting bolt	8.0 – 10	0.8 – 1.0	5.8 – 7.2
Driven bevel gear lock nut	140 – 160	14 – 16	102 – 115
Extension housing	15 – 22	1.5 – 2.2	11 – 15
Oil drain plug	30 – 35	3.0 – 3.5	22 – 25
Oil filler plug	30 – 35	3.0 – 3.5	22 – 25
Transfer case adapter mounting bolt	35 – 42	3.5 – 4.2	26 – 30
Transfer cover mounting bolt	35 – 42	3.5 – 4.2	26 – 30
Transfer hanger bracket	15 – 22	1.5 – 2.2	11 – 15
Transfer mounting bolt	55 – 60	5.5 – 6.0	40 – 43

2. SPECIAL TOOLS

Tool	Number	Name	Use
	MB990326	Preload socket	Measurement of drive bevel gear shaft rotating torque (Four wheel drive model only)
	MB990990	Side gear holding Tool (A)	Measurement of drive bevel gear shaft rotating torque (Four wheel drive model only)
	MB991013	Special spanner	Installation and removal of driven bevel gear lock nut (Four wheel drive model only)
	MD998019	Lock pin extractor	Removal of spring pin and lock pin
	MD998245	Lock pin installer	Installation of spring pin and lock pin
	MD998304	Oil seal installer	Press-fitting of front output shaft bearing (Four wheel drive model only)
	MD998316	Dial gauge support	Measurement of driven bevel gear and drive bevel gear backlash (Four wheel drive model only)

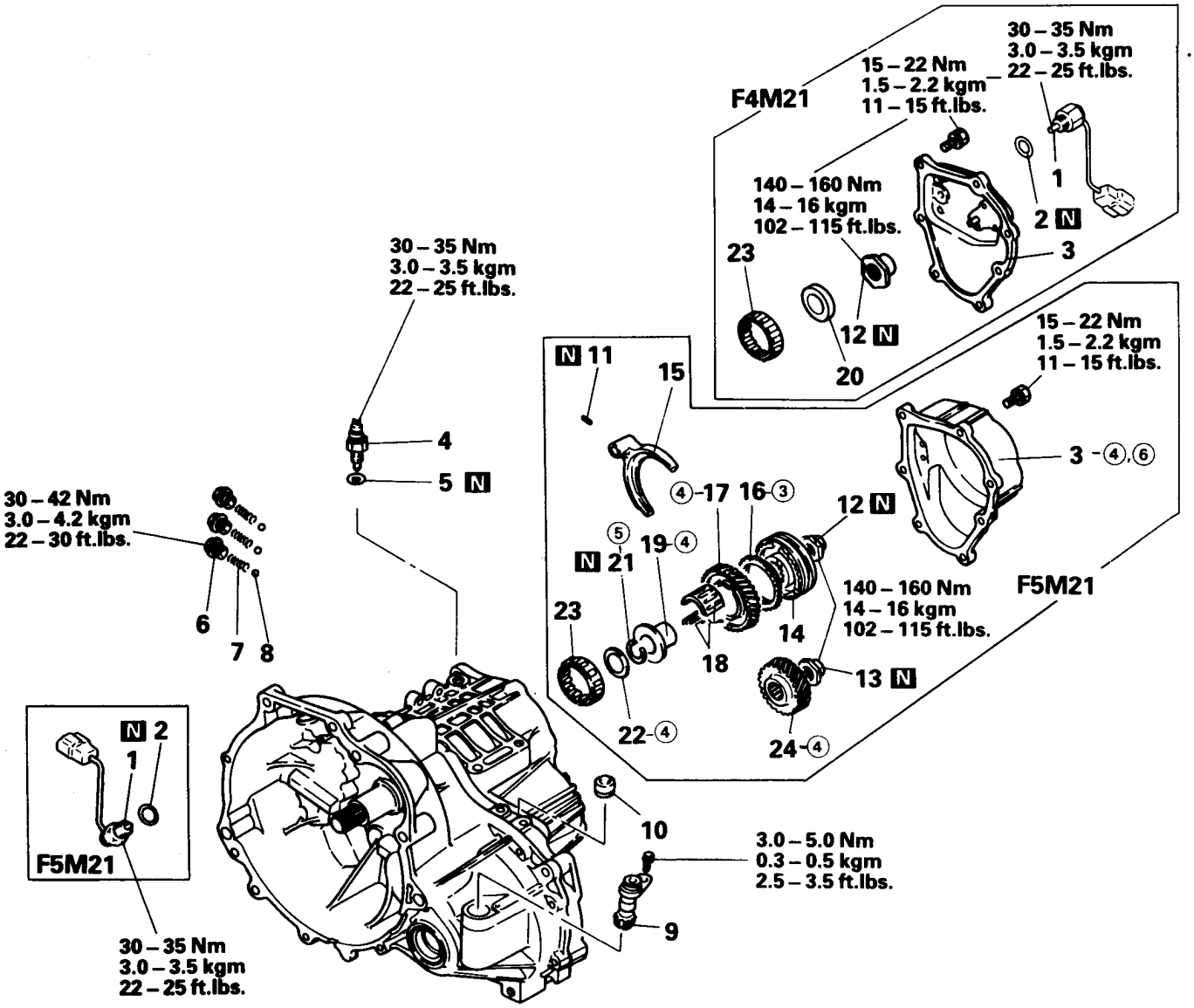
Tool	Number	Name	Use
	MD998321	Oil seal installer	Installation of input shaft front oil seal
	MD998323	Bearing installer	Installation of transfer case oil seal (Four wheel drive model only)
	MD998325	Differential oil seal installer	Installation of differential oil seal
	MD998801	Bearing remover	Press-fitting of bearing and gear to input shaft, intermediate gear and front output shaft
	MD998802	Input shaft holder	Removal and installation of input shaft and intermediate gear lock nut
	MD998803	Differential oil seal installer	Installation of differential oil seal (Four wheel drive model only)
	MD998806	Wrench adapter	Mesurement of driven bevel gear rotating torque (Four wheel drive model only)

Tool	Number	Name	Use
	MD998808	Snap ring installer	Installation of snap ring to input shaft rear bearing
	MD999566	Claw	Removal to taper roller bearing outer race (Four wheel drive model only)
	MD998812	Installer cap	Installation of each bearing
	MD998813	Installer (100)	Installation of each bearing
	MD998814	Installer (200)	Installation of each bearing
	MD998815 MD998816 MD998817 MD998818 MD998819 MD998820 MD998821 MD998822 MD998823 MD998824 MD998825 MD998826 MD998827 MD998829 MD998830	Installer adapter	Installation of each bearing

Tool	Number	Name	Use
	MD998917	Bearing remover	Removal of intermediate gear bearing (F4M21, F5M21)

3. TRANSMISSION

F4M21, F5M21



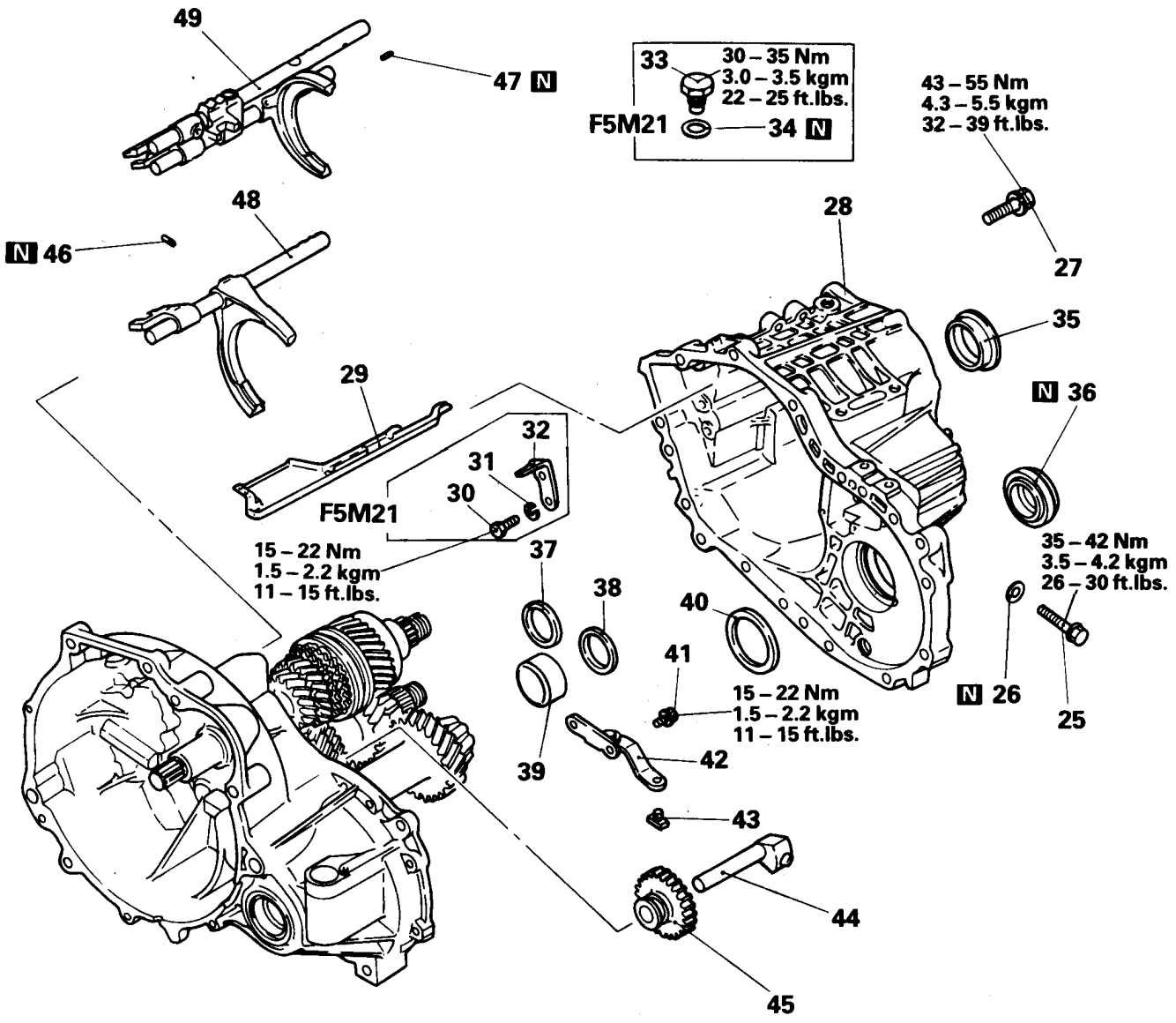
Disassembly steps

1. Transmission switch
2. Gasket
3. Rear cover
4. Backup lamp switch
5. Gasket
6. Poppet plug
7. Poppet spring
8. Poppet ball
9. Speedometer driven gear assembly
10. Air breather
11. Spring pin
12. Lock nut
13. Lock nut
14. 5th speed synchronizer assembly
15. 5th speed shift fork
16. Synchronizer ring
17. 5th speed gear
18. Needle bearing
19. Bearing sleeve
20. Dished washer
21. Snap ring (From DEC. 1987 – F5M21)
22. Spacer
23. Roller bearing
24. 5th speed intermediate gear

NOTE
③④⑤⑥: Refer to "Details of Change" table.

2010030

F4M21, F5M21

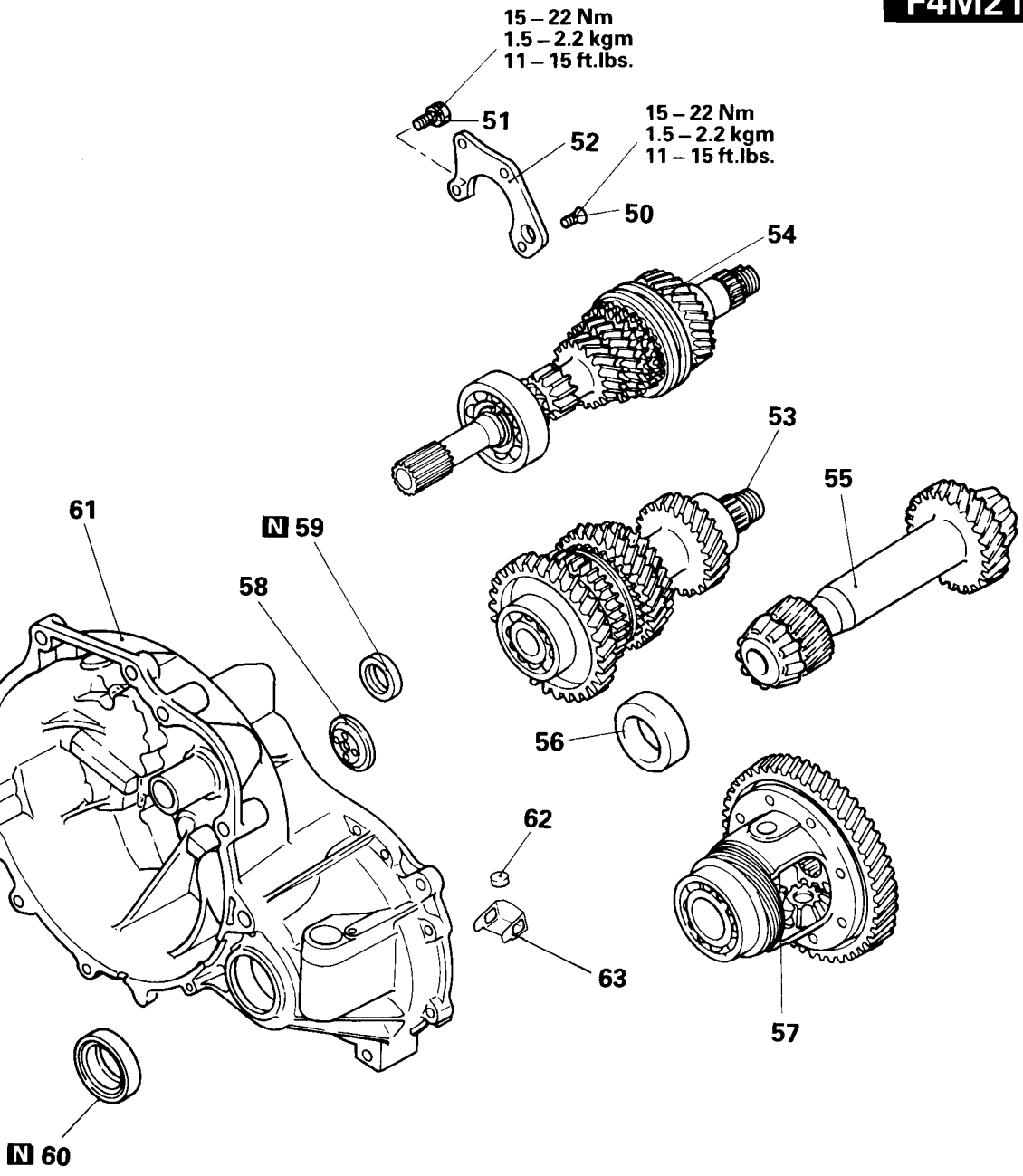


Disassembly steps

- [K] 25. Reverse idler gear shaft bolt
- 26. Gasket
- 27. Bolt
- [J] 28. Transmission case
- 29. Oil guide
- 30. Bolt
- 31. Spring washer
- 32. Stopper bracket
- 33. Restrict ball assembly
- 34. Gasket
- 35. Outer ring
- [I] 36. Oil seal
- [H] 37. Spacer
- [H] 38. Spacer
- 39. Bearing outer race (From JUL. 1987)
- [H] 40. Spacer
- 41. Bolt
- 42. Reverse shift lever assembly
- 43. Reverse shift lever shoe
- [G] 44. Reverse idler gear shaft
- 45. Reverse idler gear
- ⓒ [F] 46. Spring pin
- ⓒ [F] 47. Spring pin
- ⓓ [E] 48. Shift rail assembly
- ⓓ [E] 49. Shift rail assembly

2010008

F4M21, F5M21

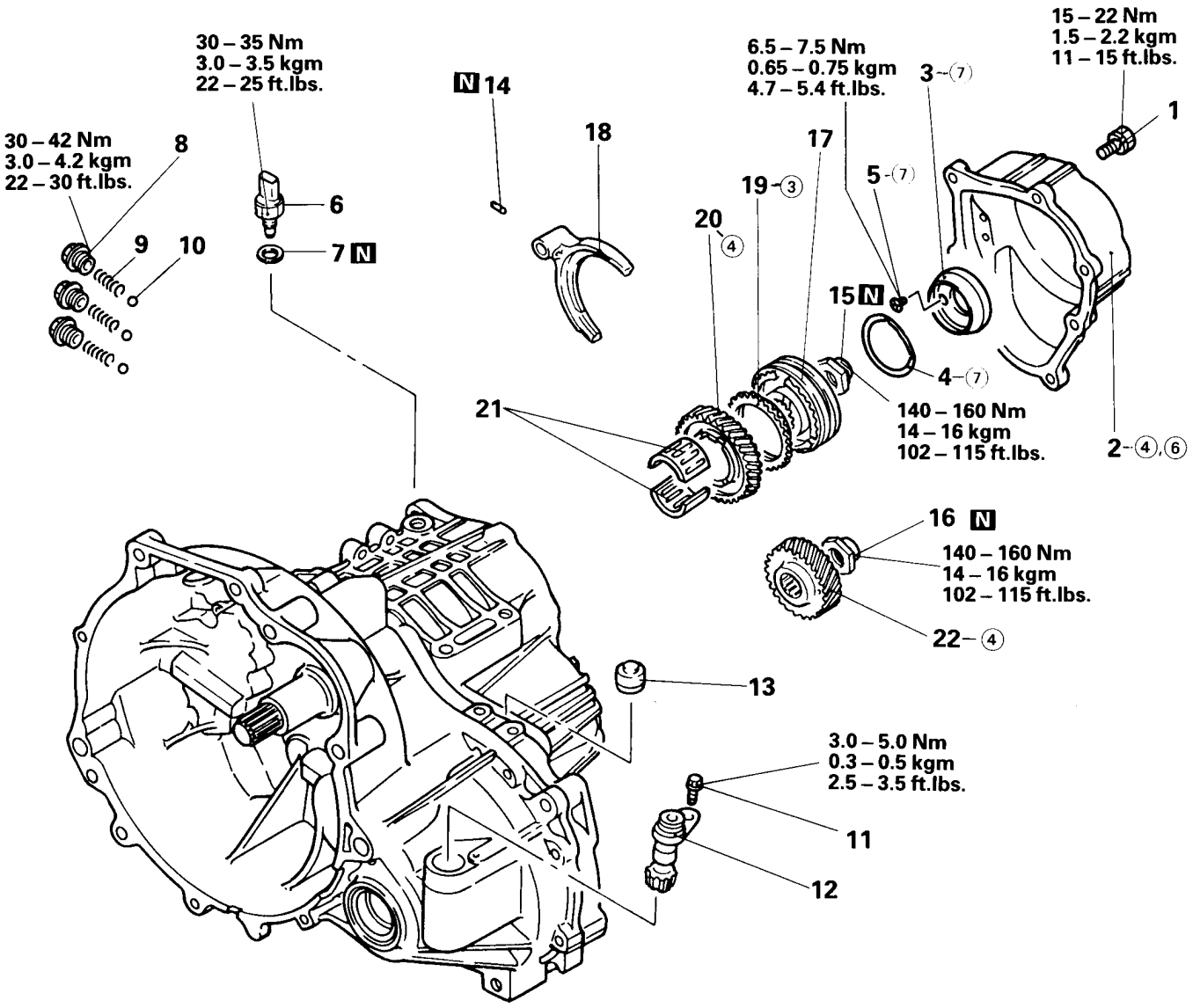


Disassembly steps

- D 50. Bolt
- 51. Bolt
- 52. Bearing retainer
- E C 53. Intermediate gear assembly
- E C 54. Input shaft assembly
- 55. Output shaft assembly
- 56. Bearing outer race (From JUL. 1987)
- 57. Differential gear assembly
- 58. Oil guide
- B 59. Oil seal
- A 60. Oil seal
- 61. Clutch housing assembly
- 62. Magnet
- 63. Magnet holder

TFM0068

F5M22



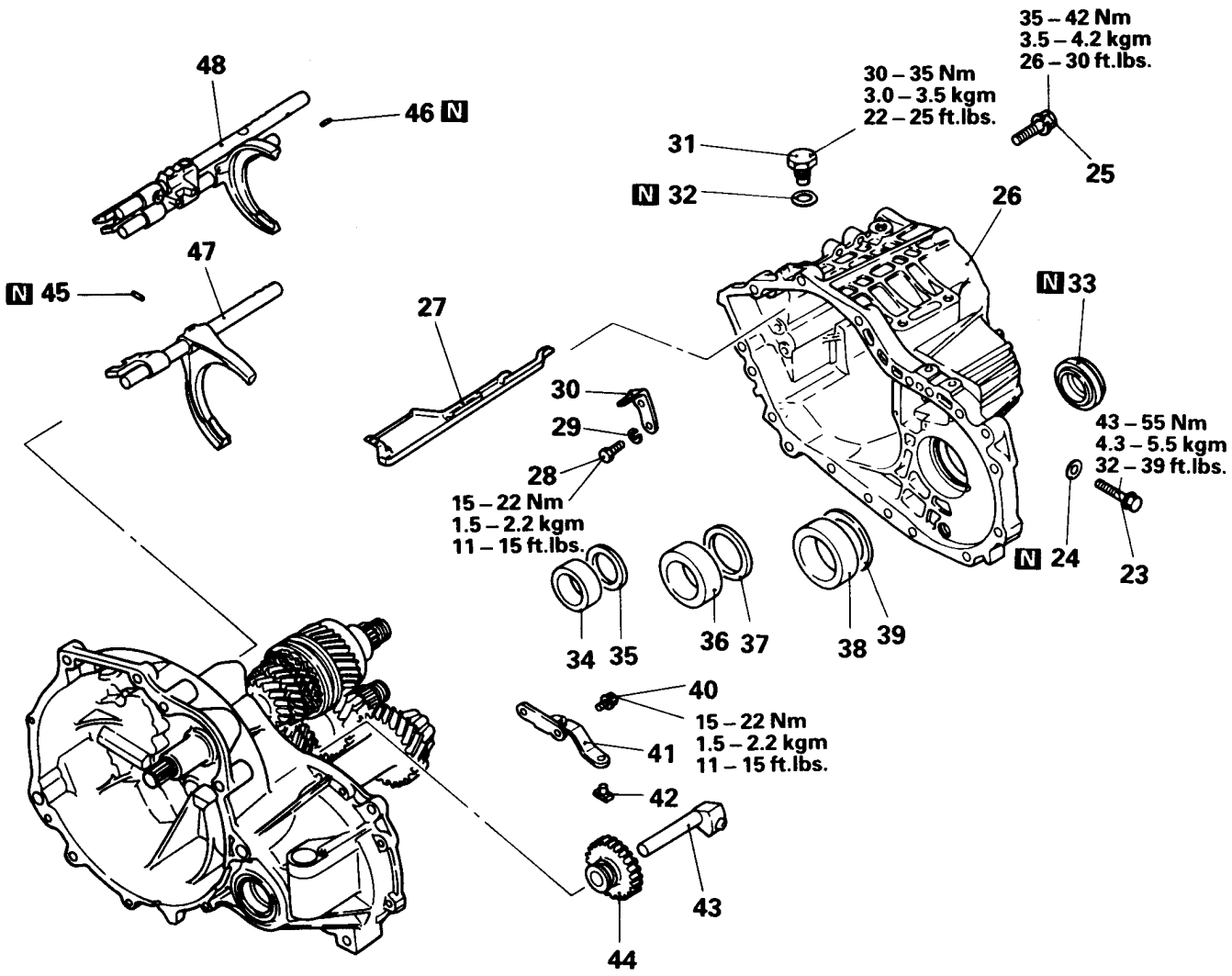
Disassembly steps

1. Bolt
Q 2. Rear cover
3. Reverse brake cone
Z 4. Wave spring
R 5. Machine screw
6. Backup lamp switch
7. Gasket
8. Poppet plug
9. Poppet spring
10. Poppet ball
11. Bolt
12. Speedometer driven gear assembly
P 13. Air breather
A O 14. Spring pin
B N 15. Lock nut
B N 16. Lock nut
17. 5th speed synchronizer assembly
18. 5th speed shift fork
19. Synchronizer ring
20. 5th speed gear
21. Needle bearing
22. 5th speed intermediate gear

NOTE
(3)(4)(6)(7): Refer to "Details of Change" table.

TFM0016

F5M22

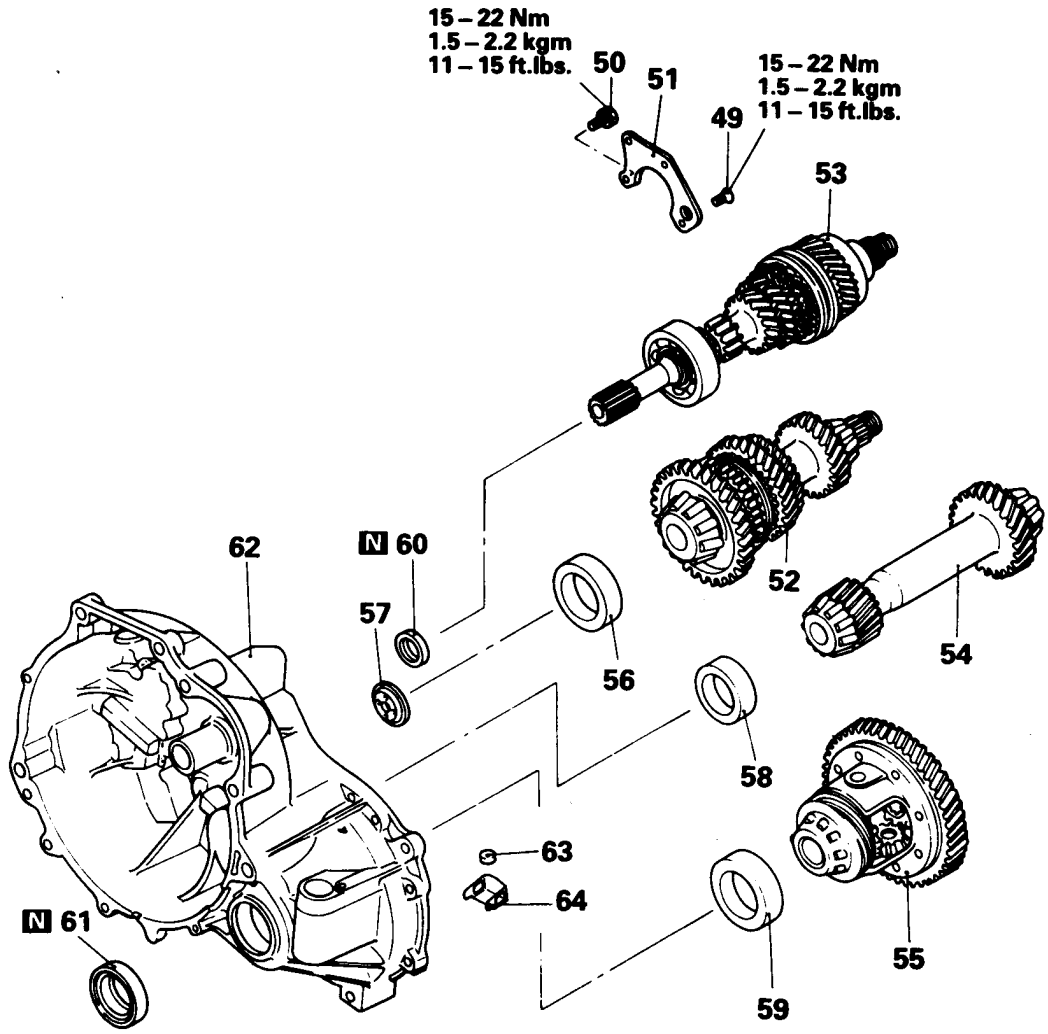


Disassembly steps

- [K] 23. Reverse idler gear shaft bolt
- 24. Gasket
- 25. Bolt
- [J] 26. Transmission case
- 27. Oil guide
- 28. Bolt
- 29. Spring washer
- 30. Stopper bracket
- 31. Restrict ball assembly
- 32. Gasket
- [I] 33. Oil seal
- 34. Bearing outer race
- [H] 35. Spacer
- 36. Bearing outer race
- [H] 37. Spacer
- 38. Bearing outer race
- [H] 39. Spacer
- 40. Bolt
- 41. Reverse shift lever assembly
- 42. Reverse shift lever shoe
- [G] 43. Reverse idler gear shaft
- 44. Reverse idler gear
- Ⓒ [F] 45. Spring pin
- Ⓒ [F] 46. Spring pin
- Ⓓ [E] 44. Shift rail assembly
- Ⓓ [E] 48. Shift rail assembly

206003

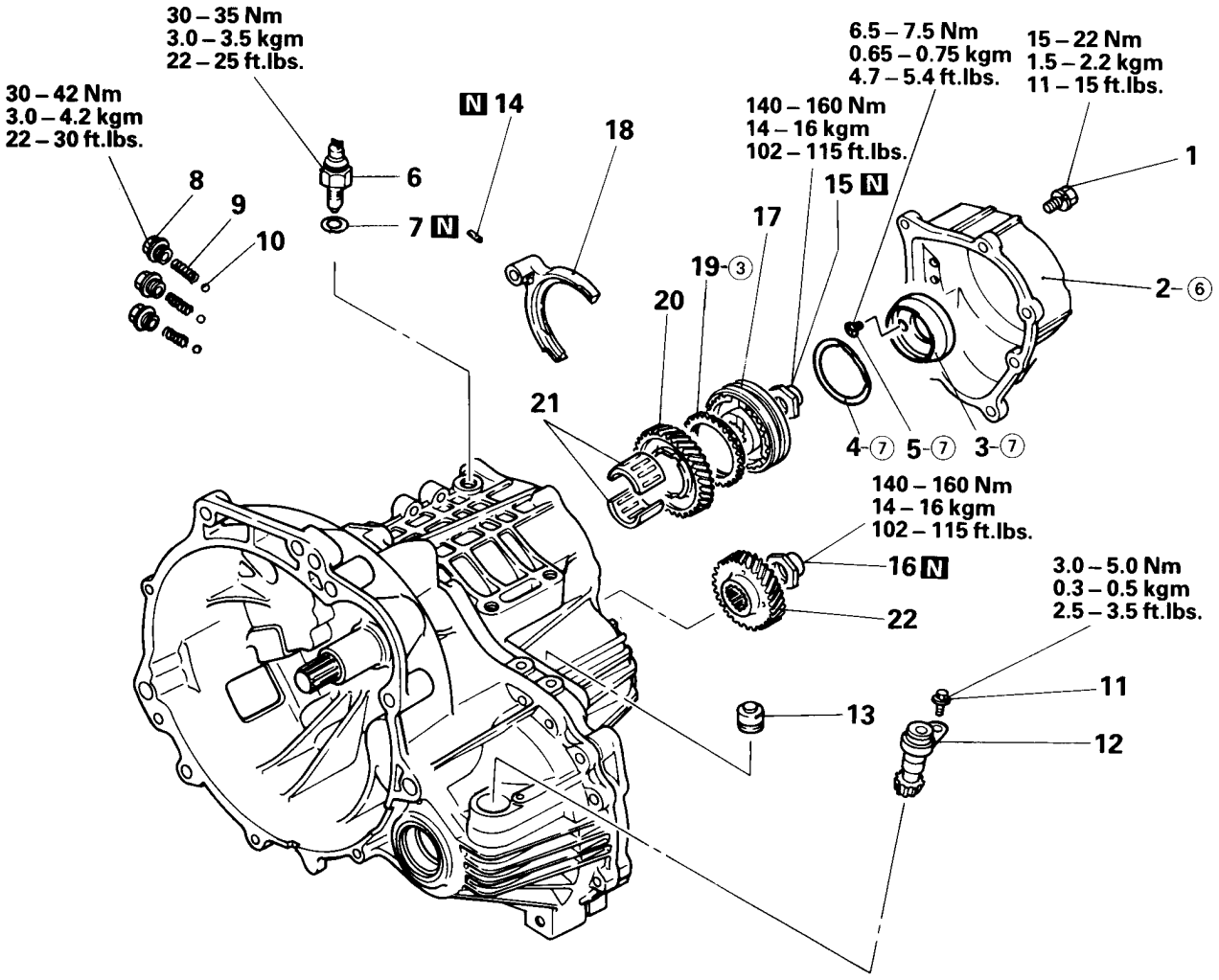
F5M22



Disassembly steps

- D 49. Bolt
- 50. Bolt
- 51. Bearing retainer
- E C 52. Intermediate gear assembly
- E C 53. Input shaft assembly
- 54. Output shaft assembly
- 55. Differential gear assembly
- 56. Bearing outer race
- 57. Oil guide
- 58. Bearing outer race
- 59. Bearing outer race
- B 60. Oil seal
- A 61. Oil seal
- 62. Clutch housing assembly
- 63. Magnet
- 64. Magnet holder

TFM0064



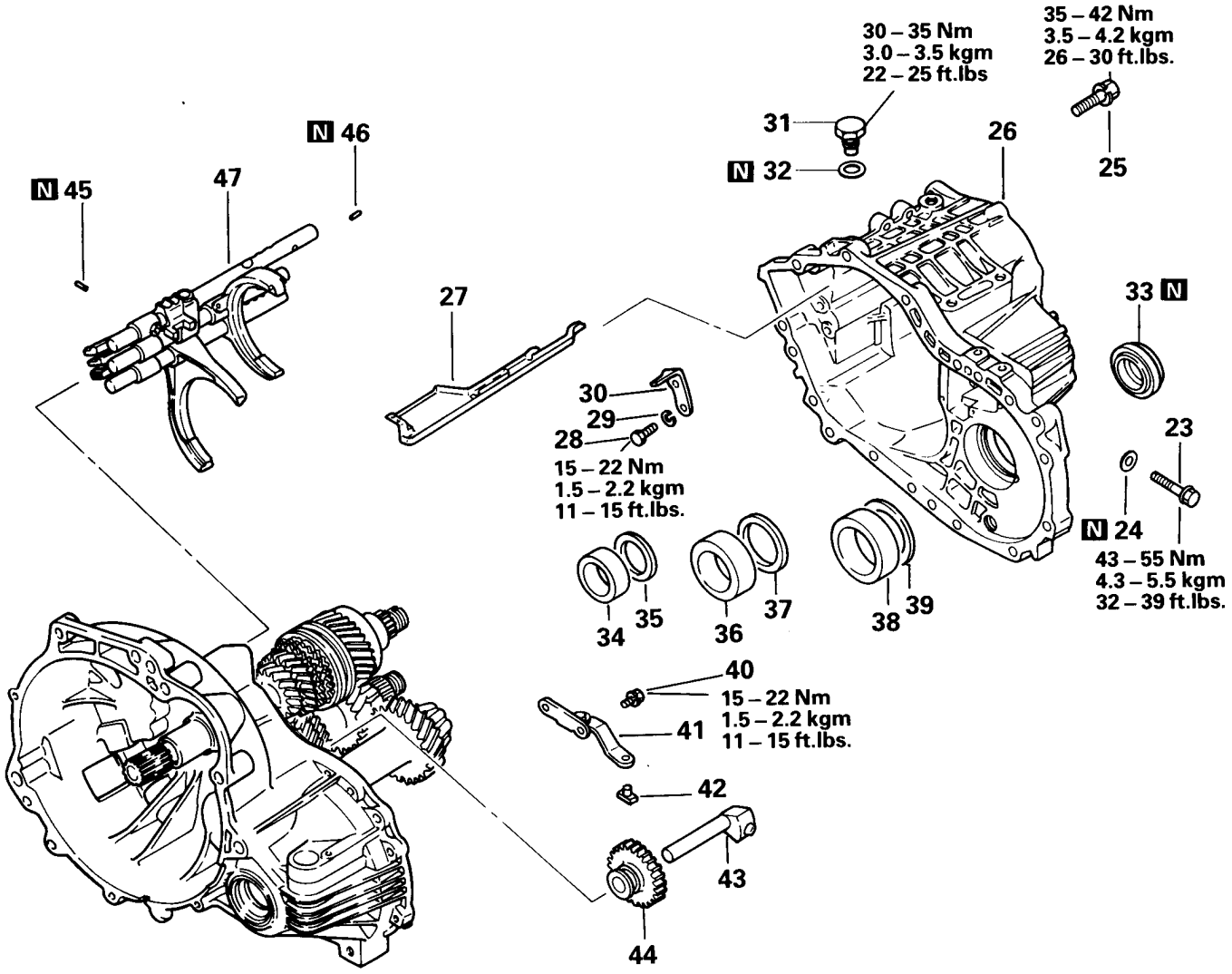
Disassembly steps

1. Bolt
Q 2. Rear cover
3. Reverse brake cone
Z 4. Wave spring
R 5. Machine screw
6. Back up lamp switch
7. Gasket
8. Poppet plug
9. Poppet spring
10. Poppet ball
11. Bolt
12. Speedometer driven gear assembly
P 13. Air breather
A O 14. Spring pin
B N 15. Lock nut
B N 16. Lock nut
17. 5th speed synchronizer assembly
18. 5th speed shift fork
19. Synchronizer ring
20. 5th speed gear
21. Needle bearing
22. 5th speed intermediate gear

NOTE
(3)(6)(7): Refer to "Details of Change" table.

TFM0078

F5M31

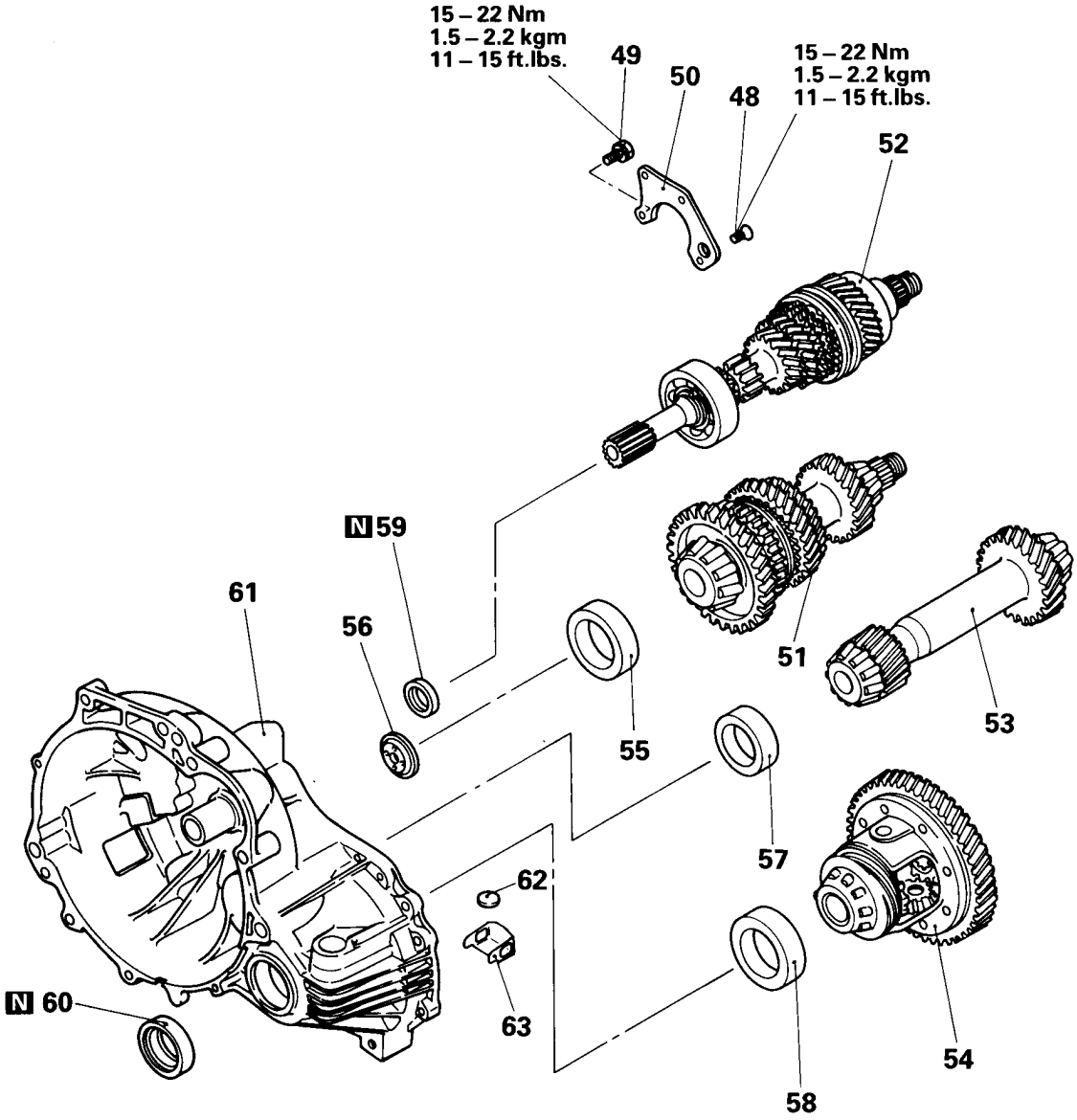


Disassembly steps

- [K] 23. Reverse idler gear shaft bolt
- 24. Gasket
- 25. Bolt
- [J] 26. Transmission case
- 27. Oil guide
- 28. Bolt
- 29. Spring washer
- 30. Stopper bracket
- 31. Restrict ball assembly
- 32. Gasket
- [I] 33. Oil seal
- 34. Bearing outer race
- [H] 35. Spacer
- 36. Bearing outer race
- [H] 37. Spacer
- 38. Bearing outer race
- [H] 39. Spacer
- 40. Bolt
- 41. Reverse shift lever assembly
- 42. Reverse shift lever shoe
- [G] 43. Reverse idler gear shaft
- 44. Reverse idler gear
- © [F] 45. Spring pin
- © [F] 46. Spring pin
- © [E] 47. Shift rail assembly

210010

F5M31

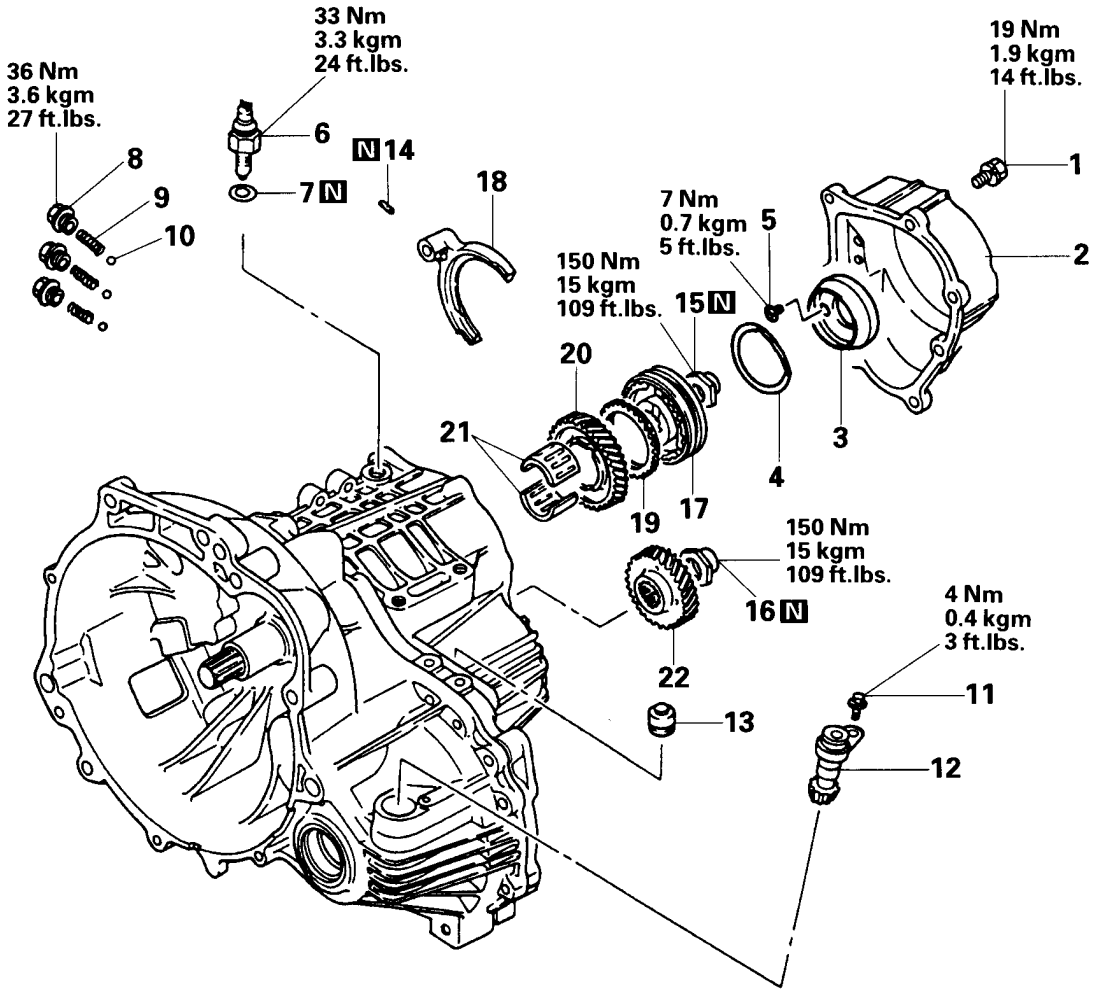


Disassembly steps

- D 48. Bolt
- 49. Bolt
- 50. Bearing retainer
- D C 51. Intermediate gear assembly
- D C 52. Input shaft assembly
- 53. Output shaft assembly
- 54. Differential gear assembly
- 55. Bearing outer race
- 56. Oil guide
- 57. Bearing outer race
- 58. Bearing outer race
- B 59. Oil seal
- A 60. Oil seal
- 61. Clutch housing assembly
- 62. Magnet
- 63. Magnet holder

TFM0079

F5M33

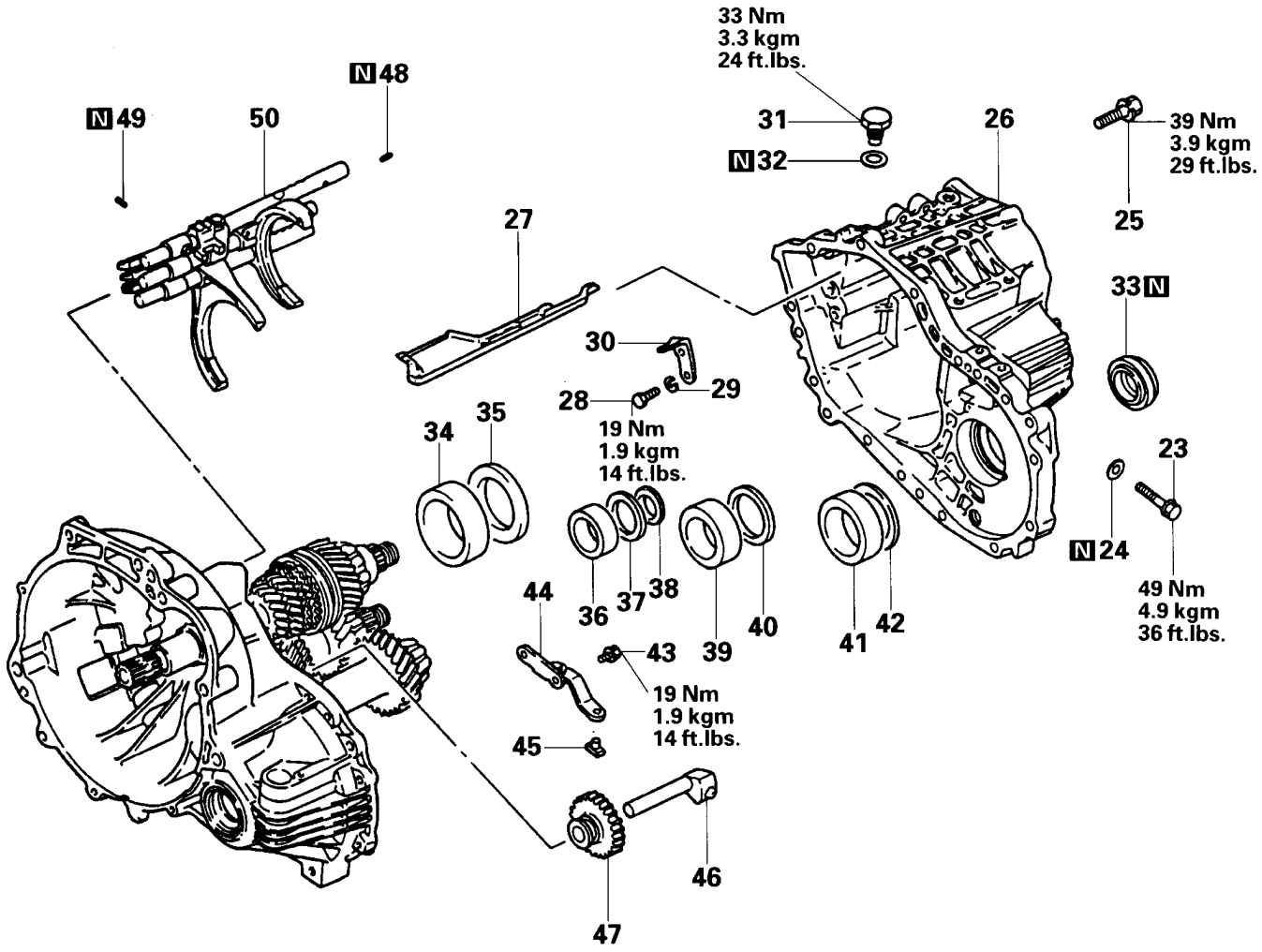


Disassembly steps

1. Bolt
Q 2. Rear cover
3. Reverse brake cone
4. Wave spring
Z 5. Machine screw
R 6. Back up light switch
7. Gasket
8. Poppet plug
9. Poppet spring
10. Poppet ball
11. Bolt
12. Speedometer driven gear assembly
P 13. Air breather
A O 14. Spring pin
B N 15. Lock nut
B N 16. Lock nut
17. 5th speed synchronizer assembly
18. 5th speed shift fork
19. Synchronizer ring
20. 5th speed gear
21. Needle bearing
22. 5th speed intermediate gear

TFM0078

Added

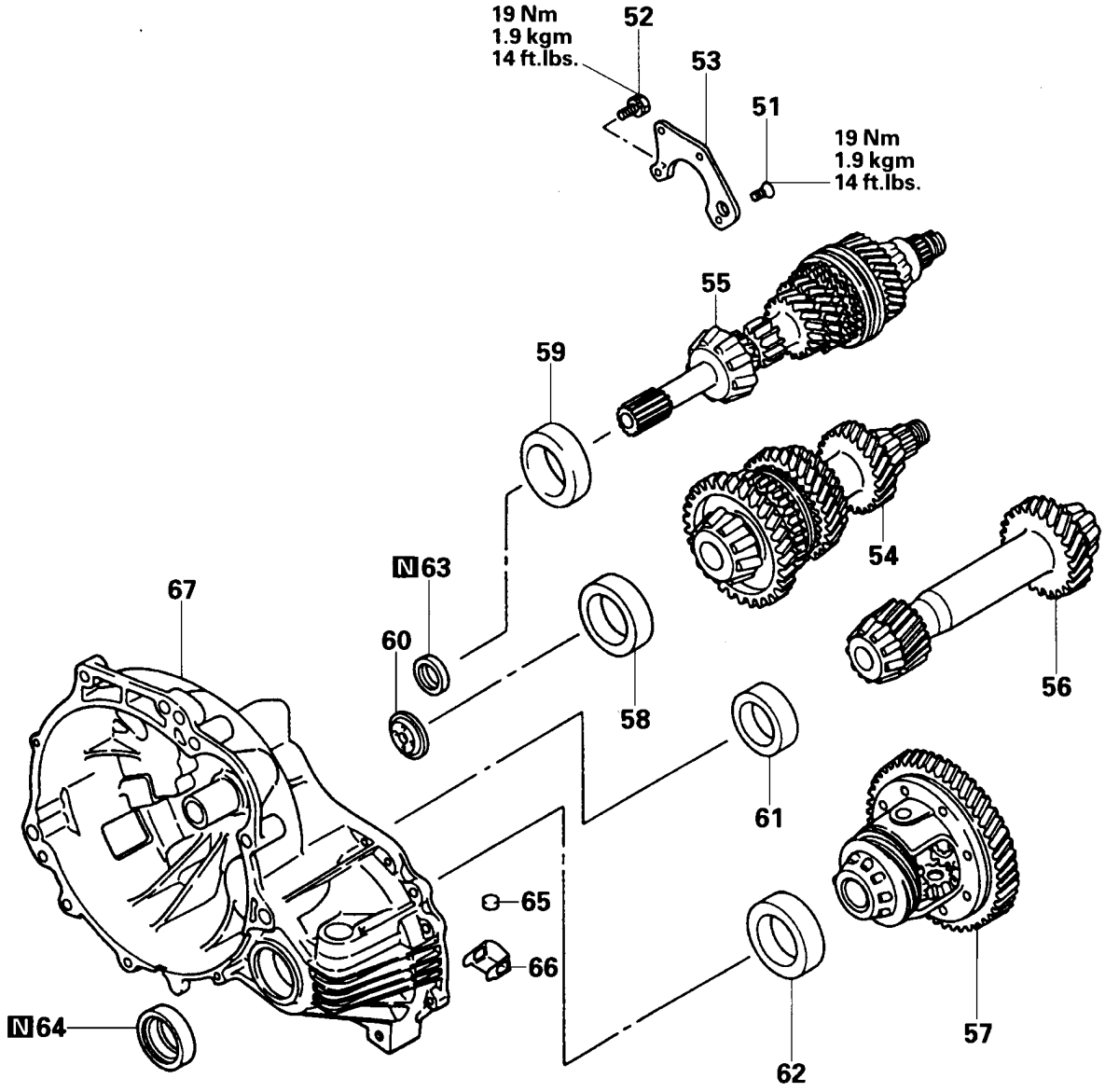


Disassembly steps

- [K] 23. Reverse idler gear shaft bolt
- 24. Gasket
- 25. Bolt
- [J] 26. Transmission case
- 27. Oil guide
- 28. Bolt
- 29. Spring washer
- 30. Stopper bracket
- 31. Restrict ball assembly
- 32. Gasket
- [I] 33. Oil seal
- 34. Bearing outer race
- [H] 35. Spacer
- 36. Bearing outer race
- [H] 37. Spacer
- 38. Filter
- 39. Bearing outer race
- [H] 40. Spacer
- 41. Bearing outer race
- [H] 42. Spacer
- 43. Bolt
- 44. Reverse shift lever assembly
- 45. Reverse shift lever shoe
- [G] 46. Reverse idler gear shaft
- 47. Reverse idler gear
- [F] 48. Spring pin
- [F] 49. Spring pin
- © [F] 50. Shift rail assembly

TFM0109

F5M33



Disassembly steps

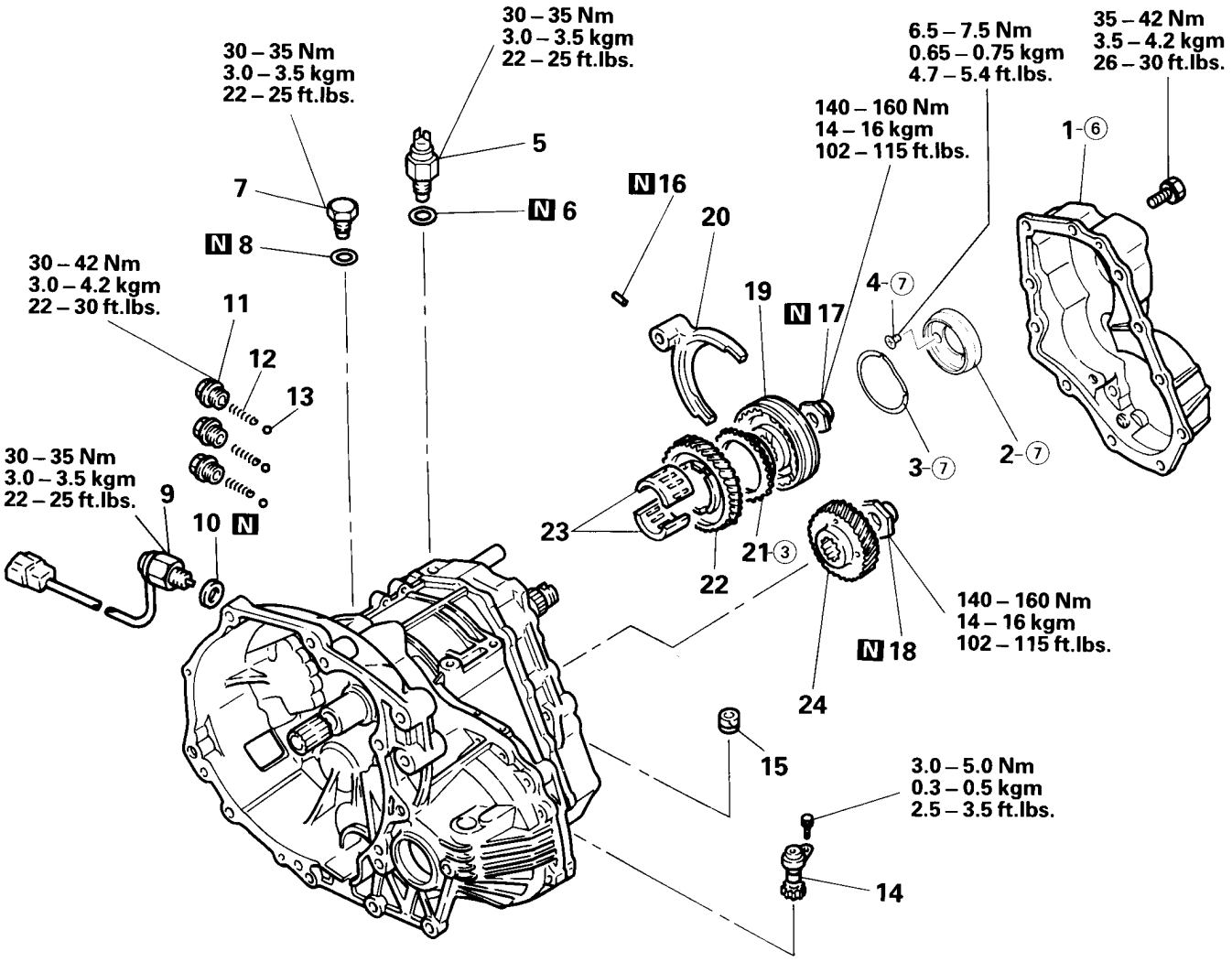
- D 51. Bolt
- 52. Bolt
- E C 53. Bearing retainer
- E C 54. Intermediate gear assembly
- 55. Input shaft assembly
- 56. Output shaft assembly
- 57. Differential gear assembly
- 58. Bearing outer race
- 59. Bearing outer race
- 60. Oil guide
- 61. Bearing outer race
- 62. Bearing outer race
- B 63. Oil seal
- A 64. Oil seal
- 65. Magnet
- 66. Magnet holder
- 67. Clutch housing assembly

TFM0026

Added

Intentionally blank

W5M31



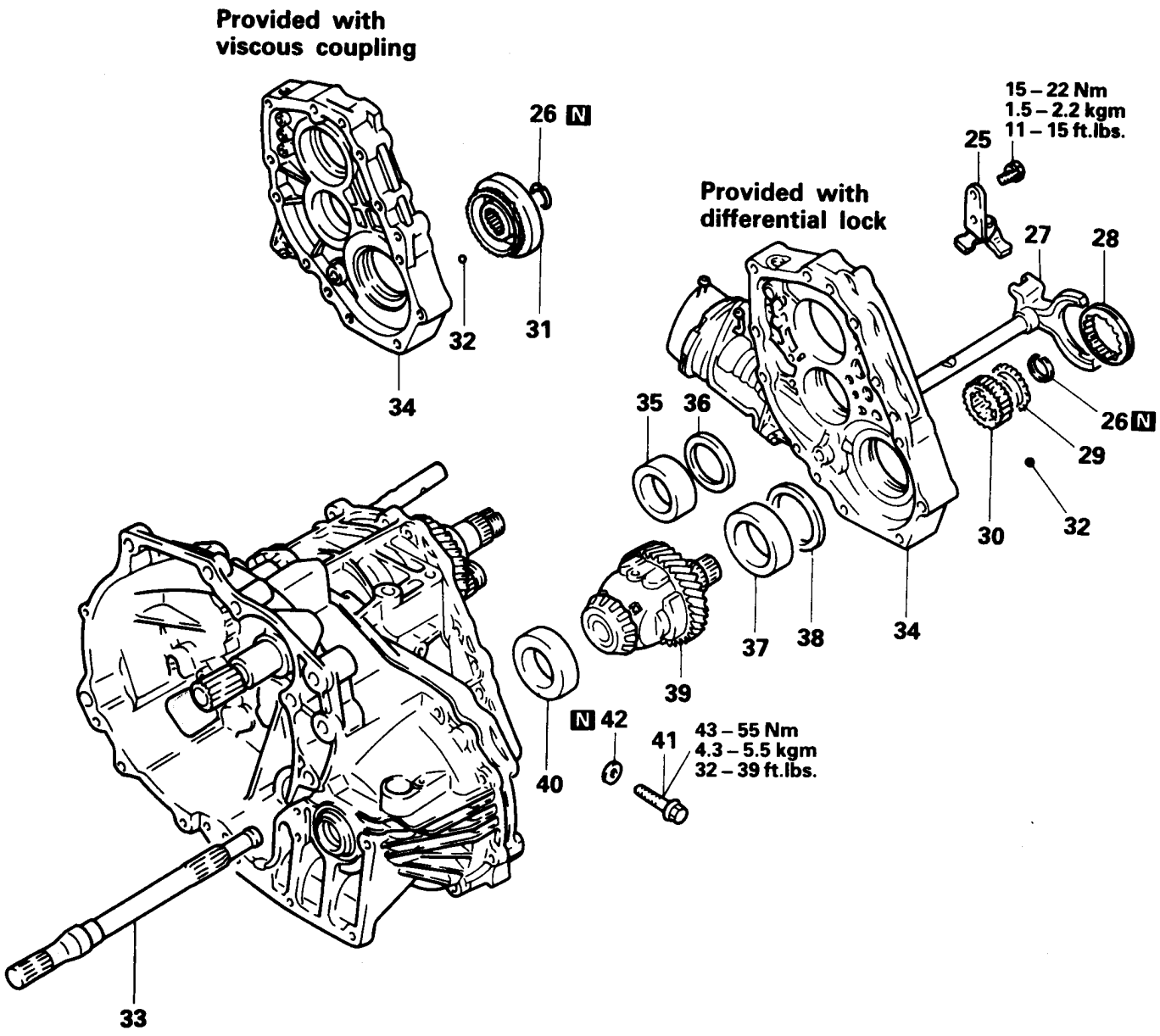
Disassembly steps

- Q 1. Rear cover
- 2. Reverse brake cone
- Z 3. Wave spring
- R 4. Machine screw
- 5. Backup lamp switch
- 6. Gasket
- 7. Restrict ball assembly
- 8. Gasket
- 9. Indicator lamp switch (with differential lock)
- 10. Gasket (with differential lock)
- 11. Poppet plug
- 12. Poppet spring
- 13. Poppet ball
- 14. Speedometer driven gear assembly
- P 15. Air breather
- Ⓐ O 16. Spring pin
- Ⓑ N 17. Lock nut
- Ⓑ N 18. Lock nut
- 19. 5th speed synchronizer assembly
- 20. Shift fork
- 21. Synchronizer ring
- 22. 5th speed gear
- 23. Needle bearing
- 24. 5th speed intermediate gear

NOTE
(3)(6): Refer to "Details of Change" table.

TFM0028

W5M31

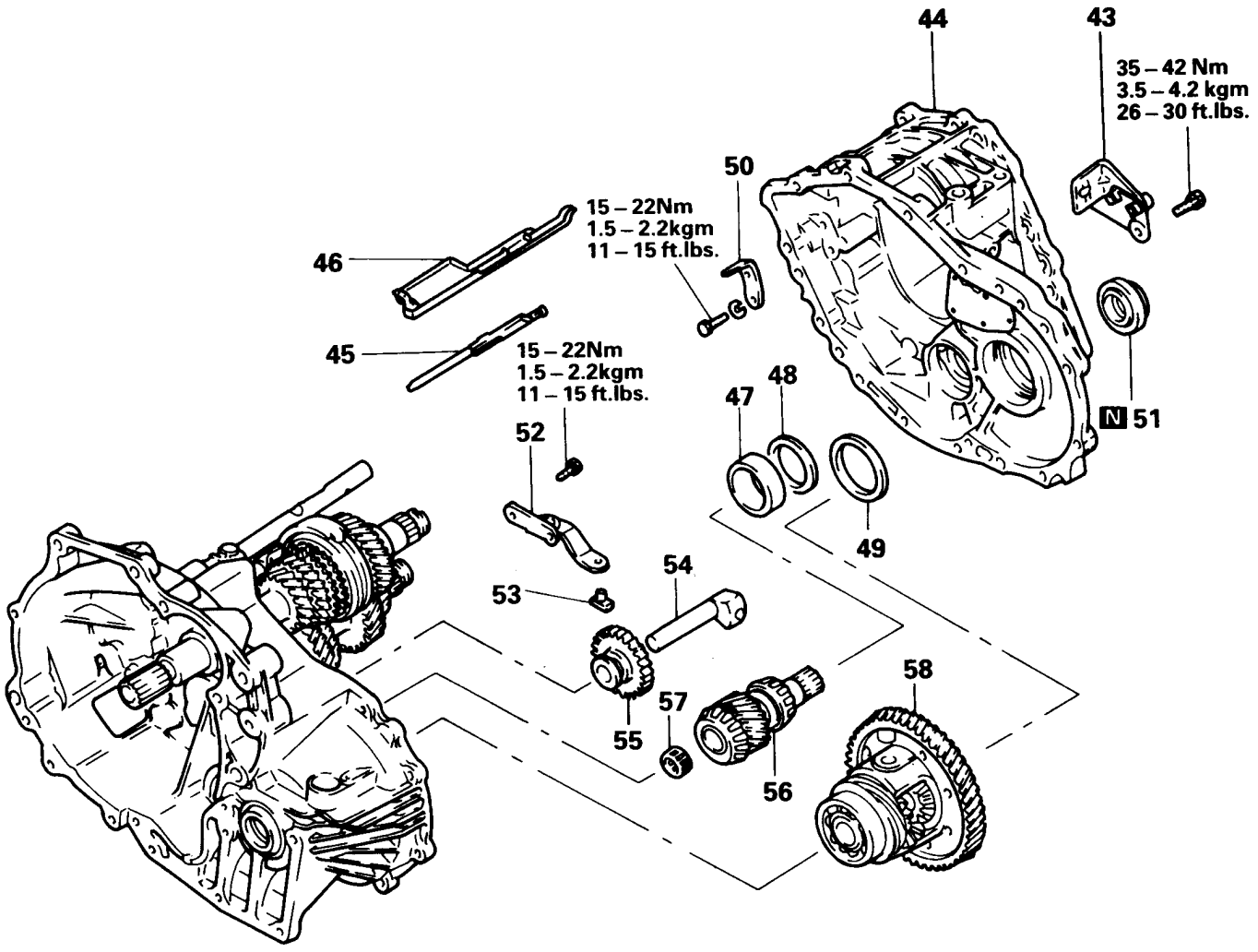


Disassembly steps

25. Differential lock shift lever
[Y] 26. Snap ring
27. Differential lock shift rail assembly
28. Clutch sleeve
29. Clutch gear
30. Differential lock hub
31. Viscous coupling
[X] 32. Steel ball
33. Center shaft
[W] 34. Transmission case adapter assembly
35. Bearing outer race
[V] 36. Spacer
37. Bearing outer race
[V] 38. Spacer
39. Center differential
(F) 40. Bearing outer race
[K] 41. Reverse idler gear shaft bolt
42. Gasket

2210152

W5M31

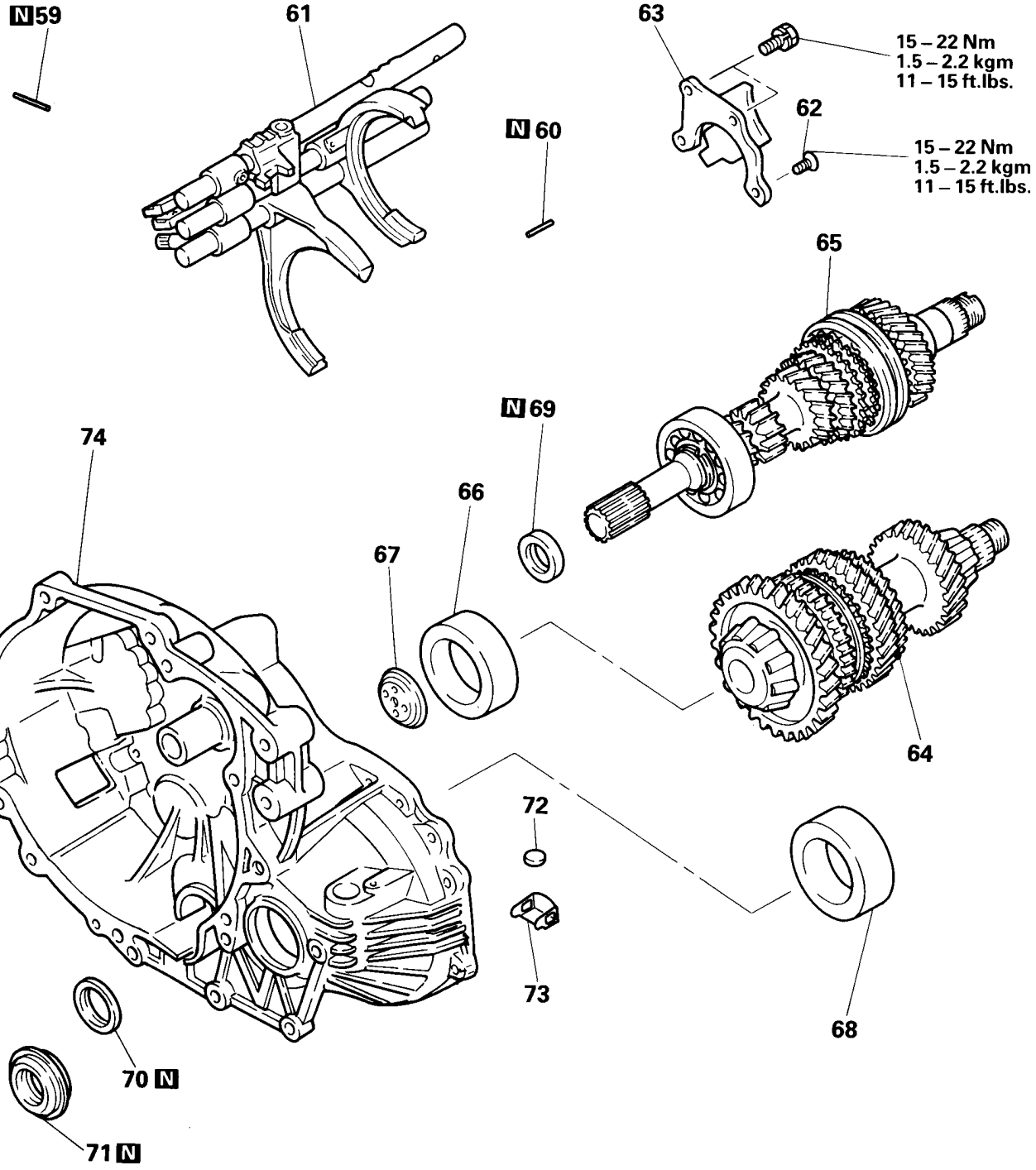


Disassembly steps

43. Clutch oil line bracket
[J] 44. Transmission case
45. Oil guide
46. Oil guide
47. Bearing outer race
[C] 48. Spacer
[C] 49. Spacer
50. Stopper bracket
[I] 51. Oil seal
52. Reverse shift lever assembly
53. Reverse shift lever shoe
54. Reverse idler gear shaft
55. Reverse idler gear
56. Front output shaft
57. Needle bearing
58. Front differential

2200021

W5M31

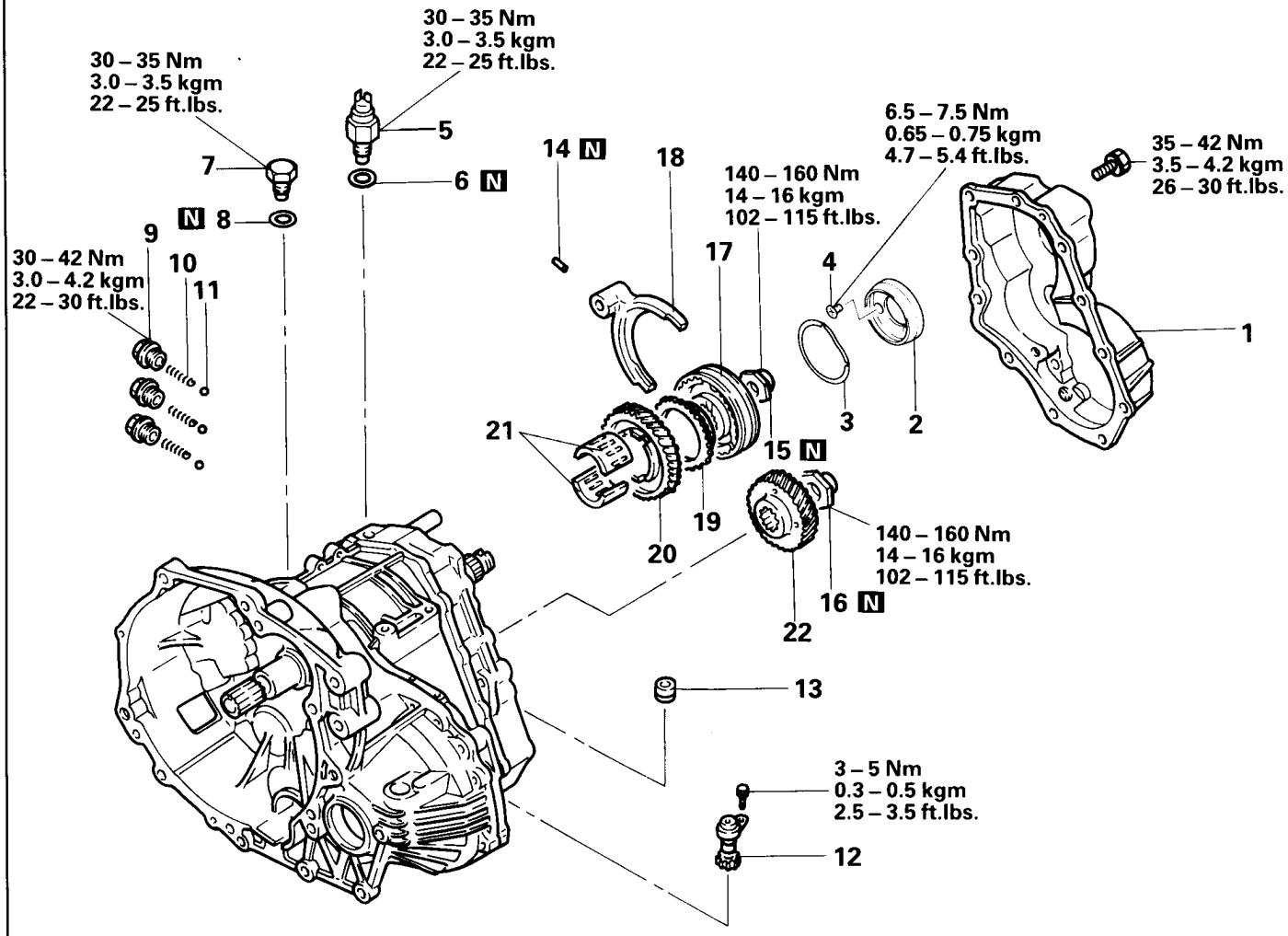


Disassembly steps

- Ⓒ F 59. Spring pin
- Ⓒ F 60. Spring pin
- Ⓓ E 61. Shift rail assembly
- D 62. Bolt
- 63. Bearing retainer
- Ⓔ C 64. Intermediate gear assembly
- Ⓔ C 65. Input shaft assembly
- Ⓕ 66. Outer race
- 67. Oil guide
- Ⓕ 68. Outer race
- B 69. Oil seal
- T 70. Oil seal
- S 71. Oil seal
- 72. Magnet
- 73. Magnet holder
- 74. Clutch housing

TFM0065

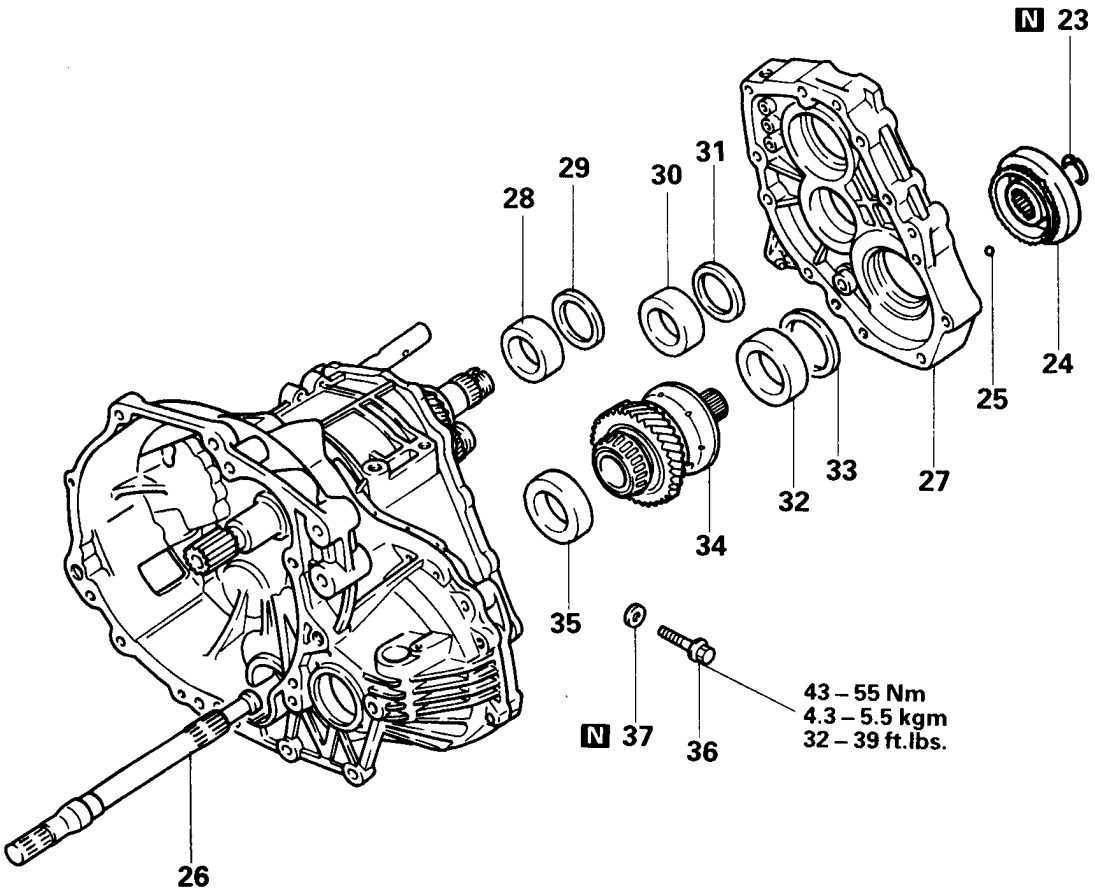
W5M33



Disassembly steps

- [Q] 1. Rear cover
- 2. Reverse brake cone
- [Z] 3. Wave spring
- [R] 4. Machine screw
- 5. Backup light switch
- 6. Gasket
- 7. Restrict ball assembly
- 8. Gasket
- 9. Poppet plug
- 10. Poppet spring
- 11. Poppet ball
- 12. Speedometer driven gear assembly
- [P] 13. Air breather
- (A) [O] 14. Spring pin
- (B) [N] 15. Lock nut
- (B) [N] 16. Lock nut
- 17. 5th speed synchronizer assembly
- 18. Shift fork
- 19. Synchronizer ring
- 20. 5th speed gear
- 21. Needle bearing
- 22. 5th speed intermediate gear

TFM0028

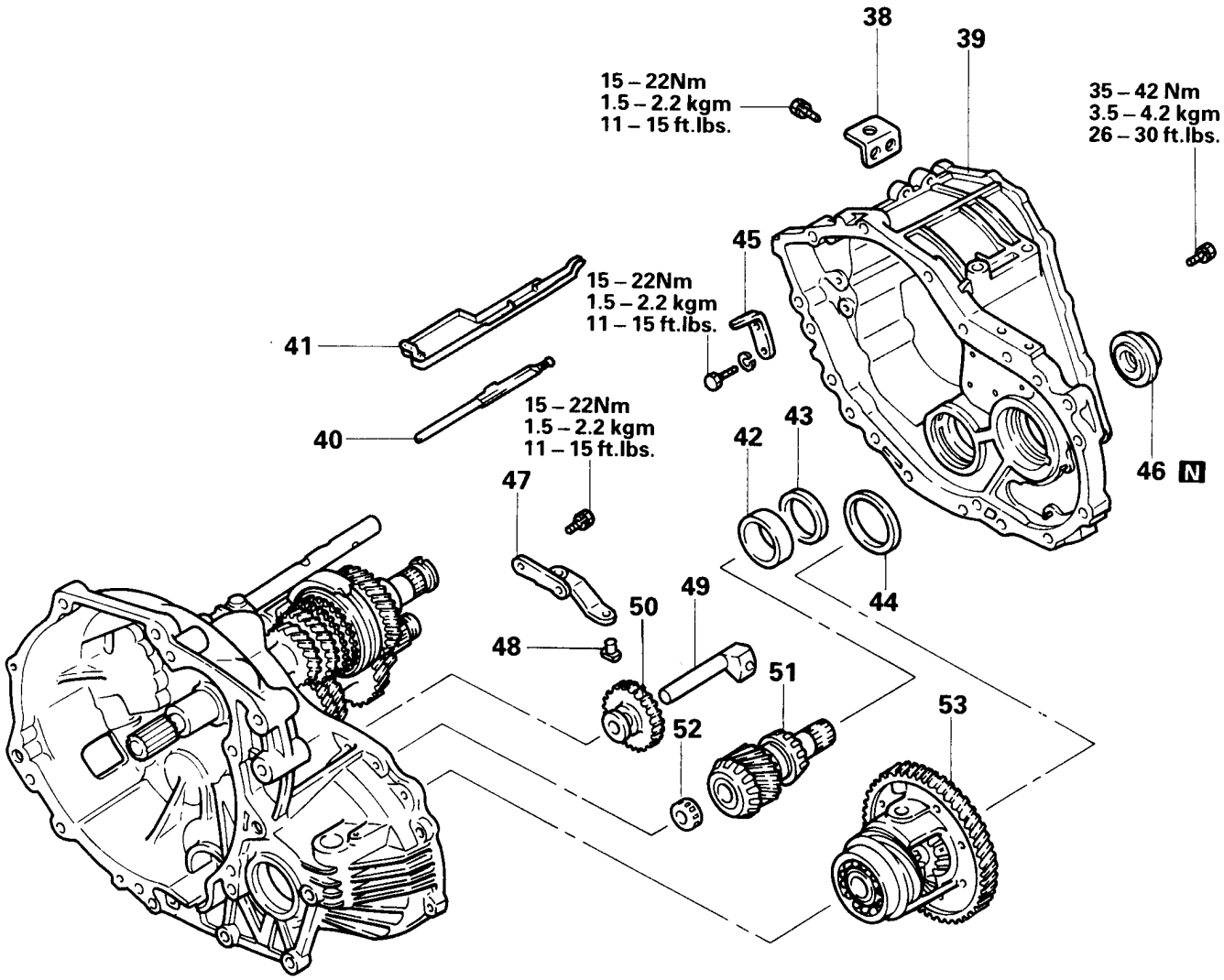


Disassembly steps

- [Y] 23. Snap ring
- 24. Viscous coupling
- [X] 25. Steel ball
- 26. Center shaft
- [W] 27. Transaxle case adapter
- Ⓕ 28. Outer case
- [V] 29. Spacer
- 30. Outer race
- [V] 31. Spacer
- 32. Outer race
- [V] 33. Spacer
- 34. Center differential
- Ⓕ 35. Outer race
- [K] 36. Reverse idler gear shaft bolt
- 37. Gasket

TFM0029

W5M33

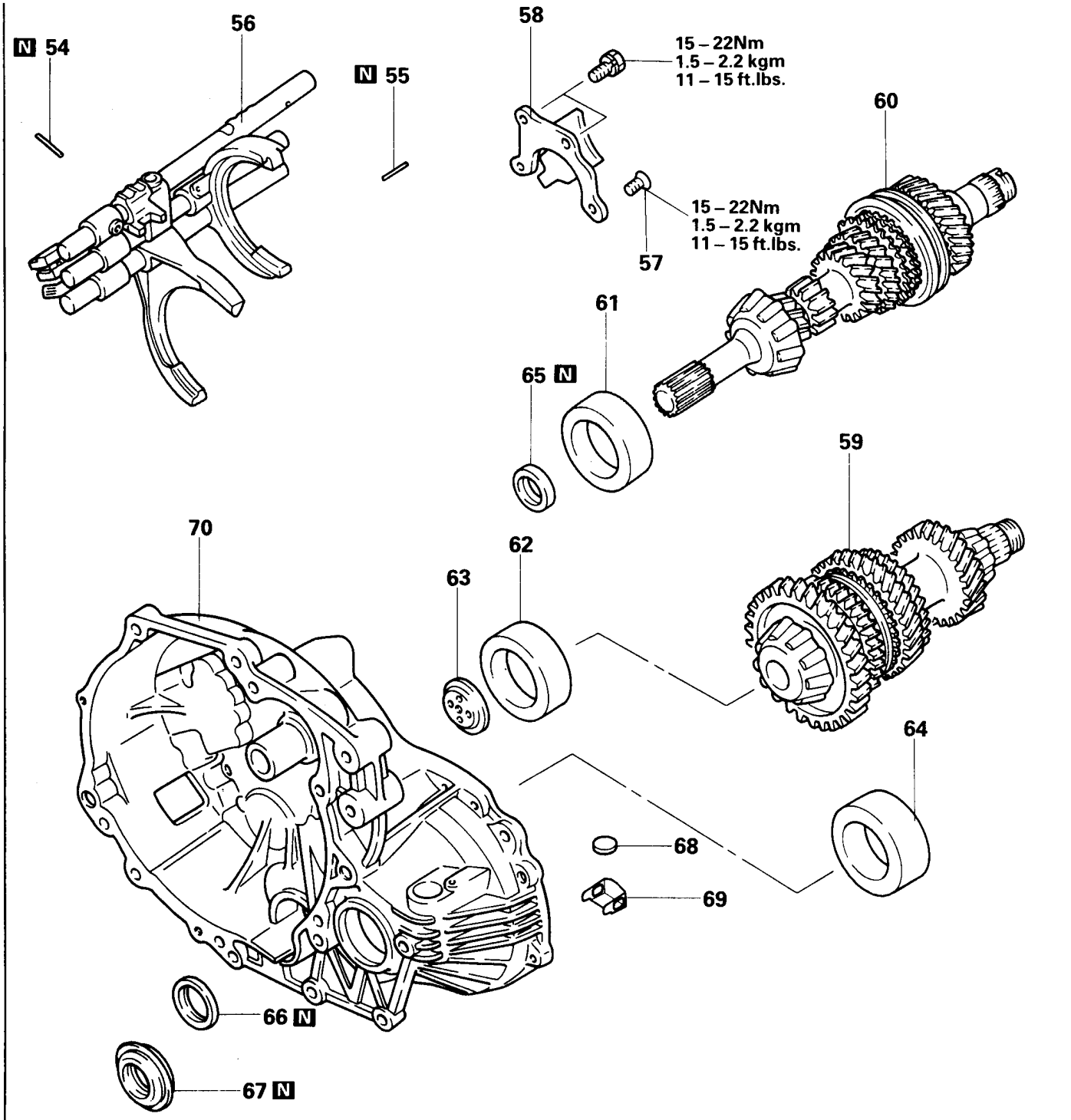


Disassembly steps

38. Clutch oil line bracket
[J] 39. Transaxle case
30. Oil guide
41. Oil guide
42. Outer race
[U] 43. Spacer
[U] 44. Spacer
45. Stopper bracket
[I] 46. Oil seal
47. Reverse shift lever assembly
48. Reverse shift lever shoe
49. Reverse idler gear shaft
50. Reverse idler gear
51. Front output shaft assembly
52. Needle bearing
53. Front differential

2250013

W5M33



Disassembly steps

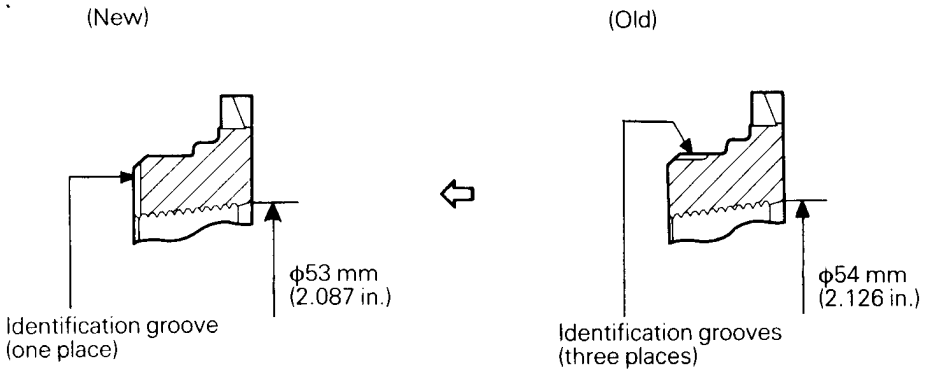
- Ⓒ [F] 54. Spring pin
- Ⓒ [F] 55. Spring pin
- Ⓓ [E] 56. Shift rail assembly
- [D] 57. Bolt
- 58. Bearing retainer
- Ⓔ [C] 59. Intermediate gear assembly
- Ⓔ [C] 60. Input shaft assembly
- Ⓕ 61. Outer racer
- Ⓕ 62. Outer race
- 63. Oil guide
- Ⓕ 64. Outer race
- [B] 65. Oil seal
- [T] 66. Oil seal
- [S] 67. Oil seal
- 68. Magnet
- 69. Magnet holder
- 70. Clutch housing assembly

TFM0066

Details of Change

③

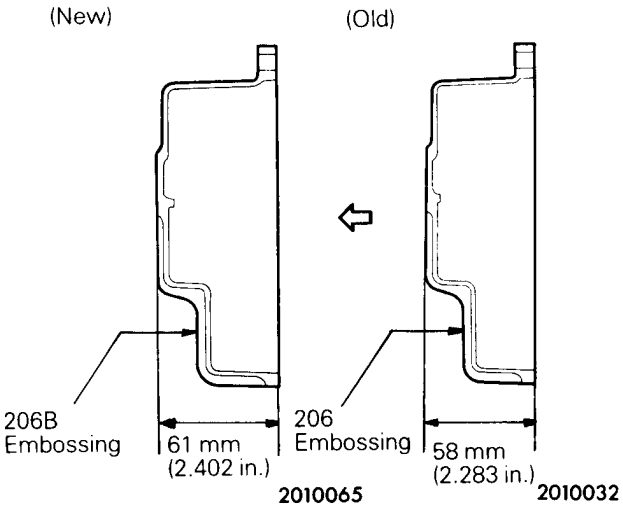
Synchronizer ring for 5th speed



2010064 2010031

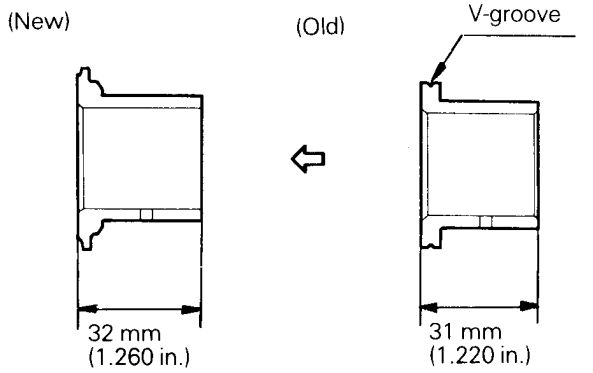
④

Rear cover



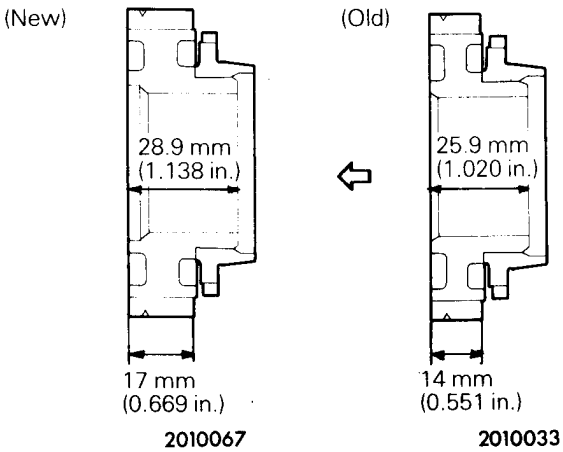
2010065 2010032

Bearing sleeve



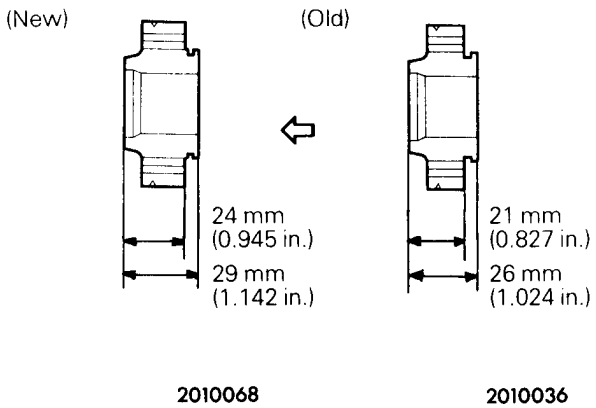
2010066 2010034

5th speed gear



2010067 2010033

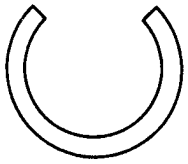
5th speed intermediate gear



2010068 2010036

⑤

Snap ring

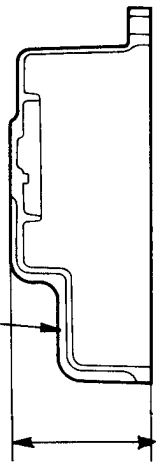


2010075

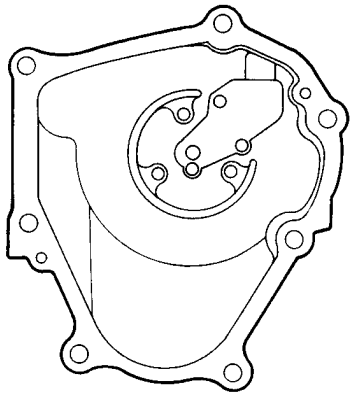
⑥

Rear cover

(New)



Embossing
F5M2 ... F5M21, F5M22
F5M31 ... F5M31

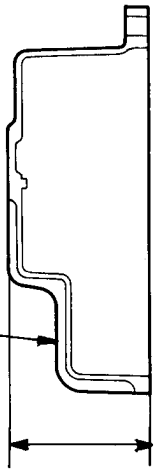


62.6 mm (2.465 in.) ... F5M21, F5M22
60.6 mm (2.386 in.) ... F5M31

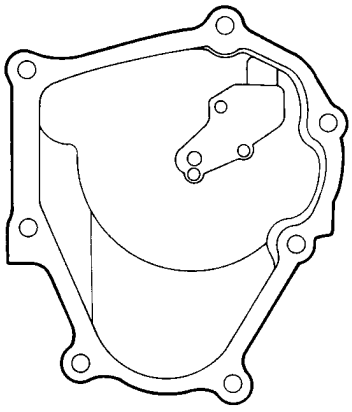
2010078

⇧

(Old)



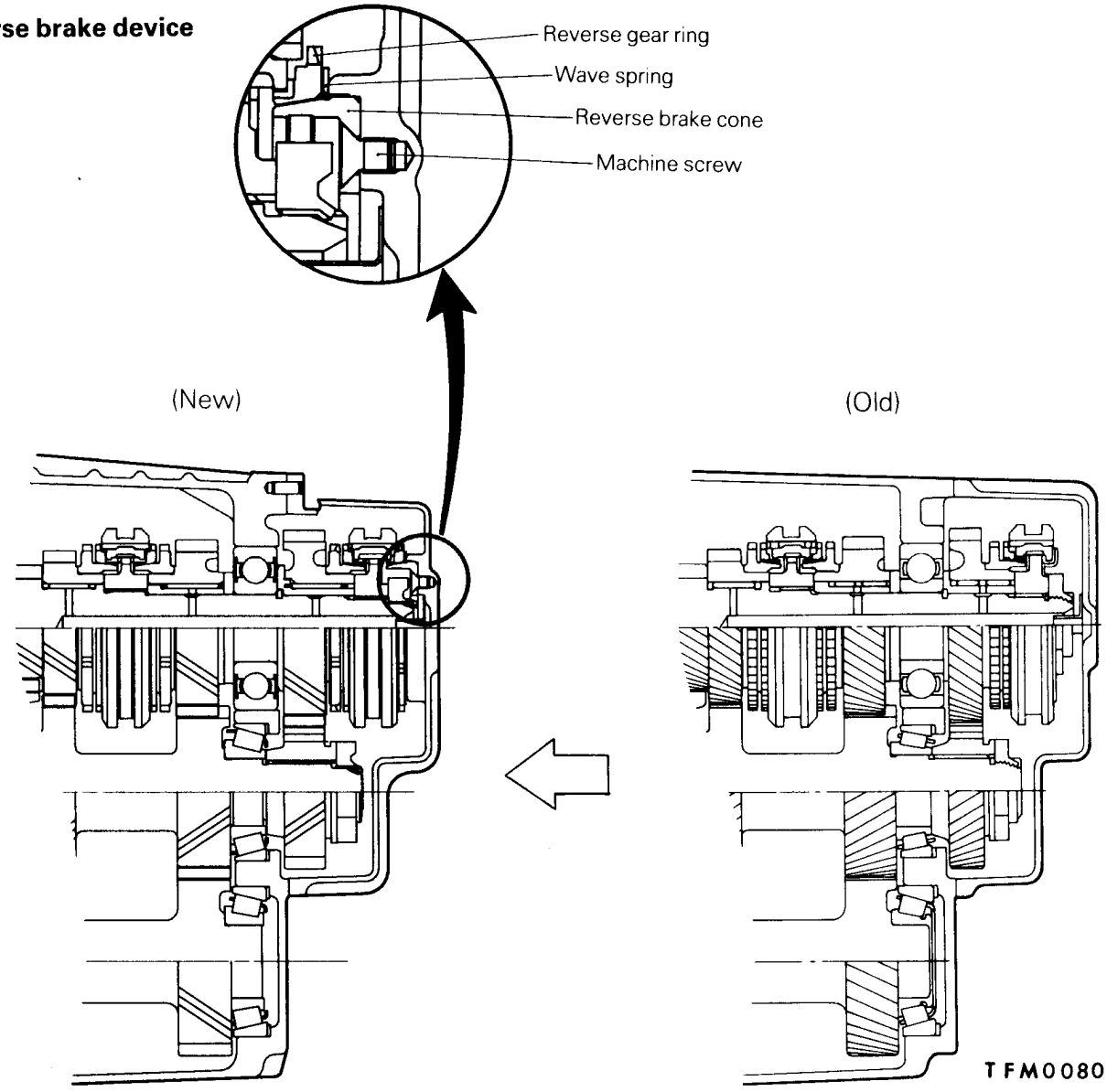
Embossing
206B ... F5M21, F5M22
210 ... F5M31



61 mm (2.402 in.) ... F5M21, F5M22
59 mm (2.323 in.) ... F5M31

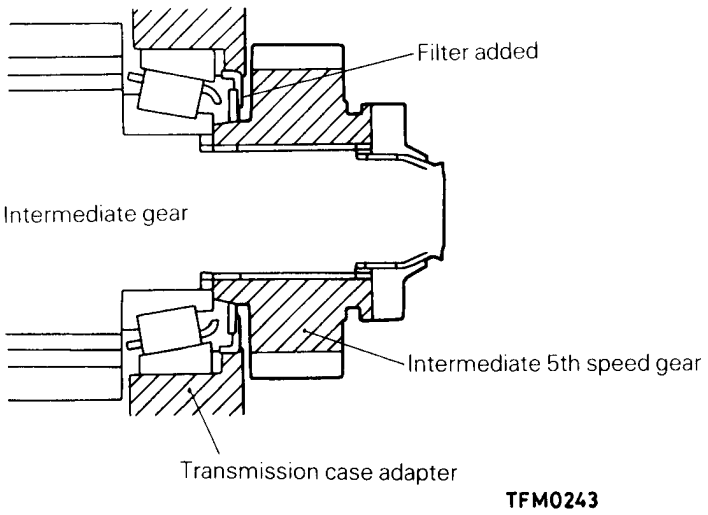
2010038

Reverse brake device

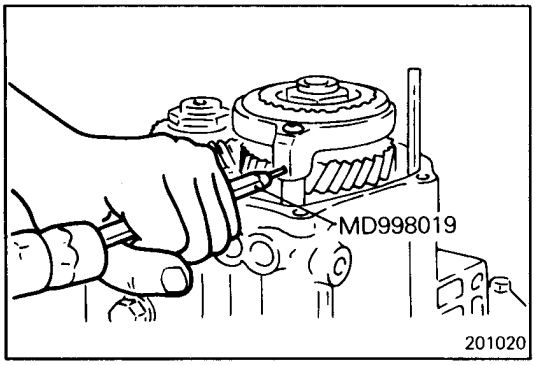


⑦

Filter (W5M31 for EC only)

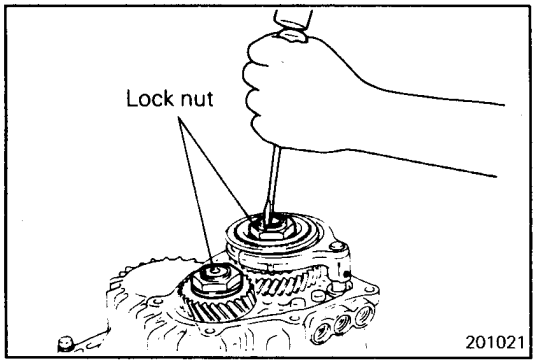


⑨



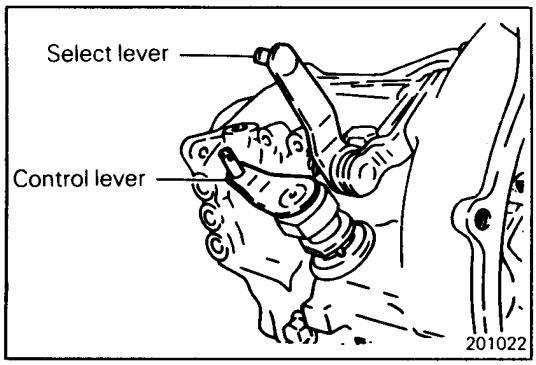
SERVICE POINTS OF DISASSEMBLY

Ⓐ REMOVAL OF SPRING PIN FOR OD-R SHIFT FORK

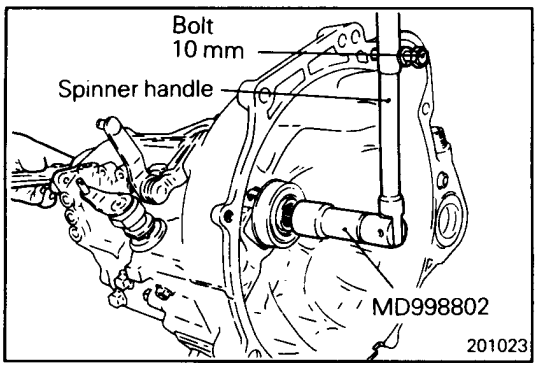


Ⓑ REMOVAL OF LOCK NUTS FOR INPUT SHAFT / INTERMEDIATE GEAR

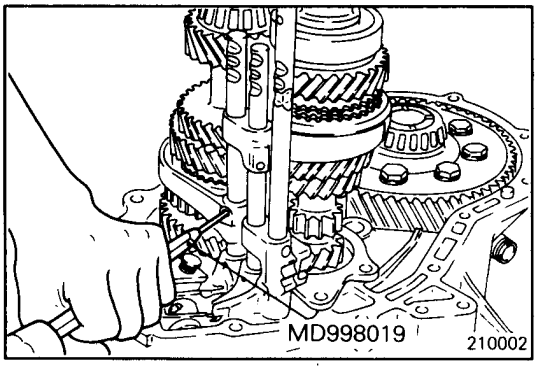
(1) Unstake lock nuts of the input shaft and intermediate gear.



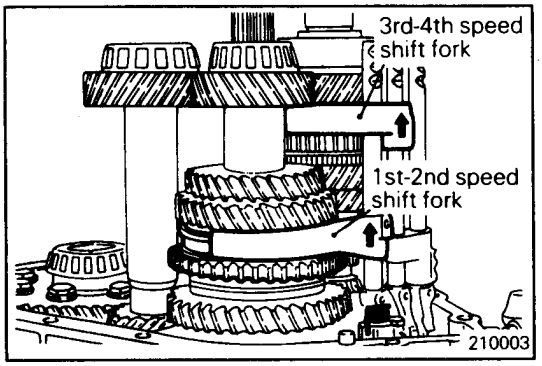
(2) Shift the transmission in reverse using the control lever and select lever.



(3) Install the special tool onto the input shaft.
(4) Screw a bolt (10 mm) into the bolt hole on the periphery of clutch housing and attach a spinner handle to the special tool.
(5) Remove the lock nut, while using the bolt as a spinner handle stopper.

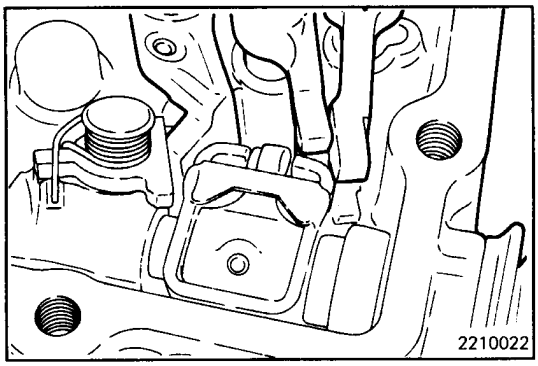


Ⓒ REMOVAL OF SPRING PINS FOR 1ST-2ND SPEED SHIFT FORK / 3RD-4TH SPEED SHIFT FORK

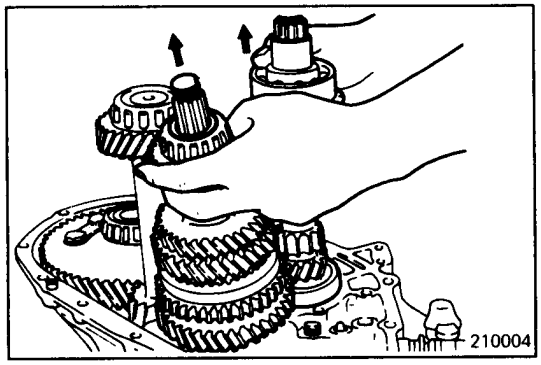


Ⓓ REMOVAL OF SHIFT RAIL ASSEMBLY

(1) Shift the 1st-2nd speed shift fork to the 2nd speed.
(2) Shift the 3rd-4th speed shift fork to the 4th speed.

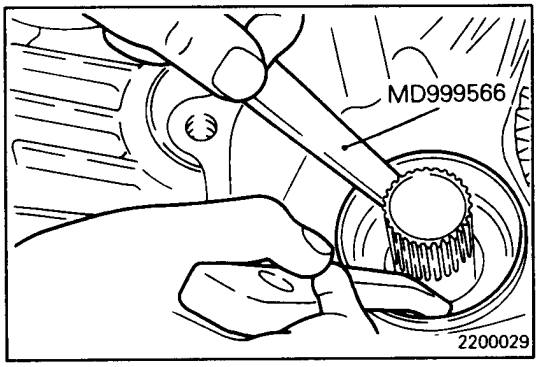


(3) Remove the shift rail assembly as shown in the illustration so as not to hit the interlock plate and control finger.

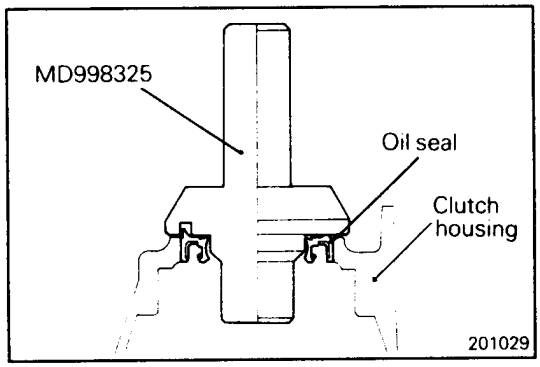


Ⓔ REMOVAL OF INTERMEDIATE GEAR ASSEMBLY / INPUT SHAFT ASSEMBLY

(1) Lift up the input shaft assembly and remove the intermediate gear assembly.

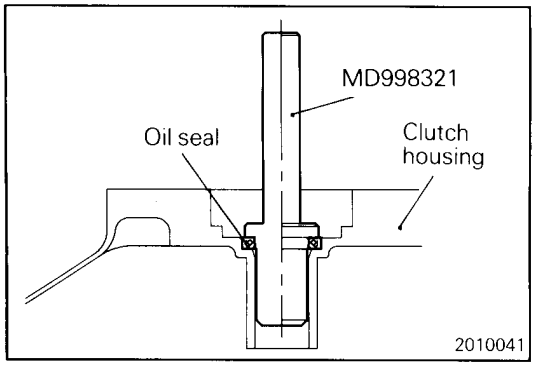


Ⓕ REMOVAL OF BEARING OUTER RACE

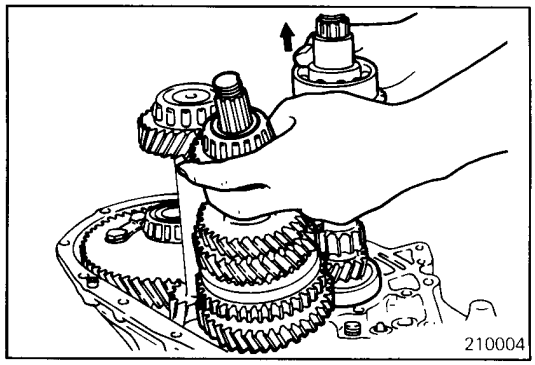


SERVICE POINTS OF REASSEMBLY

Ⓐ INSTALLATION OF OIL SEAL FOR DRIVE SHAFT

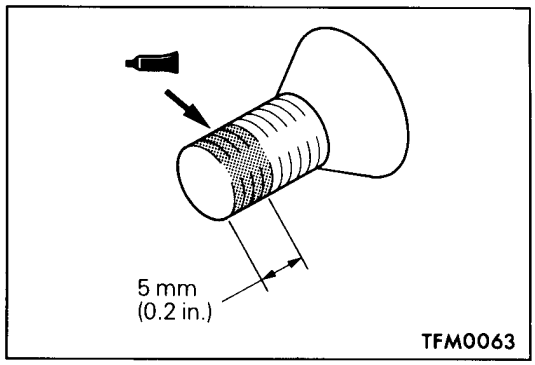


B INSTALLATION OF OIL SEAL FOR INPUT SHAFT FRONT



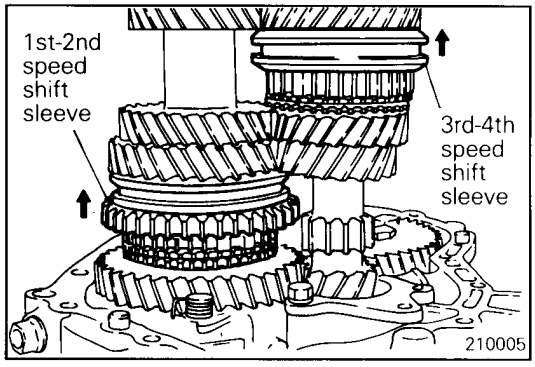
C INSTALLATION OF INTERMEDIATE GEAR ASSEMBLY / INPUT SHAFT ASSEMBLY

(1) Lifting up the input shaft assembly, install it simultaneously with the intermediate gear assembly.



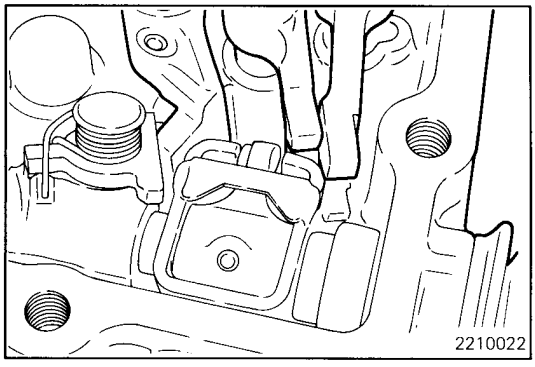
D APPLICATION OF SEALANT TO BEARING RETAINER MOUNTING BOLT

Specified sealant: 3M STUD Locking No. 4170 or equivalent

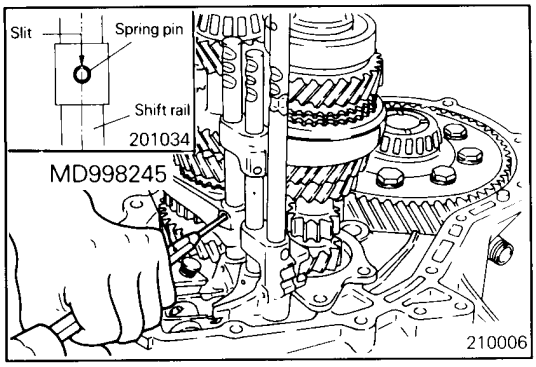


E INSTALLATION OF SHIFT RAIL ASSEMBLY

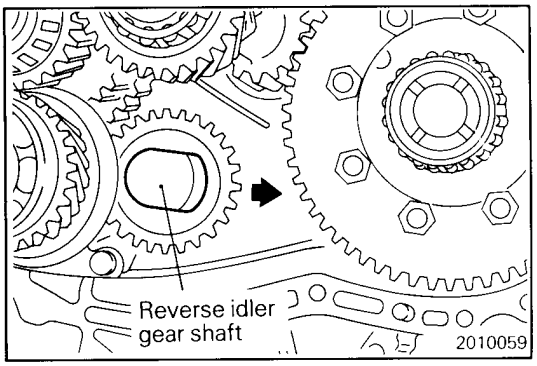
(1) Set the 1st-2nd speed shift sleeve at 2nd speed.
(2) Set the 3rd-4th speed shift sleeve at 4th speed.
(3) Install the shift forks to respective sleeves.



(4) Insert the shift rail into the shift fork hole, while turning so as to prevent the shift lug from interfering with the stopper plate.
(5) Turn the shift rail to engage shift lug.

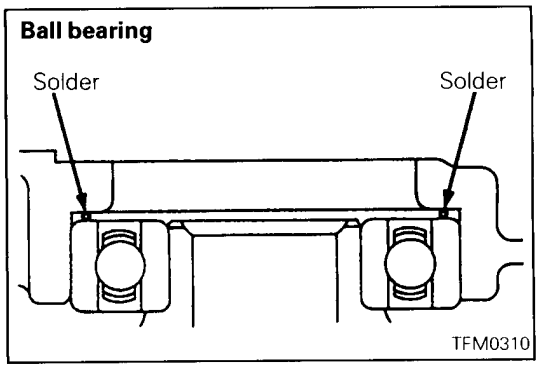


F INSTALLATION OF SPRING PINS FOR 1ST-2ND SPEED SHIFT FORK / 3RD-4TH SPEED SHIFT FORK



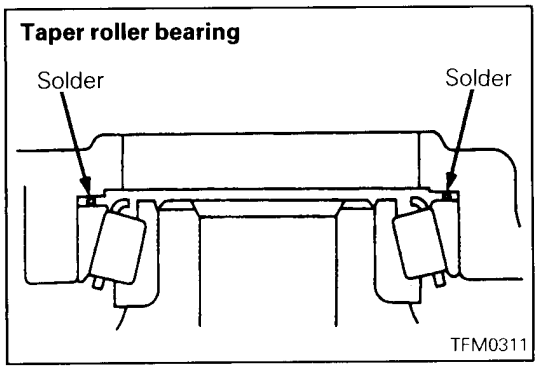
G INSTALLATION OF REVERSE IDLER GEAR SHAFT

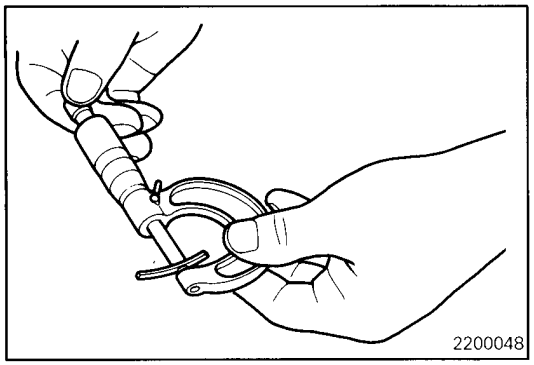
(1) Install in the direction as illustrated.



H SPACERS SELECTION

(1) Place solder with a length of approximately 10 mm (0.39 in.) and a diameter of approximately 1.6 mm (0.063 in.) in the spacer mounting position.
(2) Tighten the case mounting bolt at the specified torque.
(3) Remove the case and then take out the solder. If the solder is not broken, use solder with a larger diameter to carry out the operations in (1) and (2).





(4) Measure the thickness of the crushed solder with a micrometer and select and install a spacer of thickness that gives standard end play and preload.

Standard value:

Input shaft preload

0 – 0.05 mm (0 – 0.002 in.) F5M33

Intermediate gear

0.05 – 0.17 mm (0.002 – 0.007 in.) F4M21, F5M21

0.05 – 0.10 mm (0.002 – 0.004 in.) F5M22, F5M31, F5M33

Output shaft

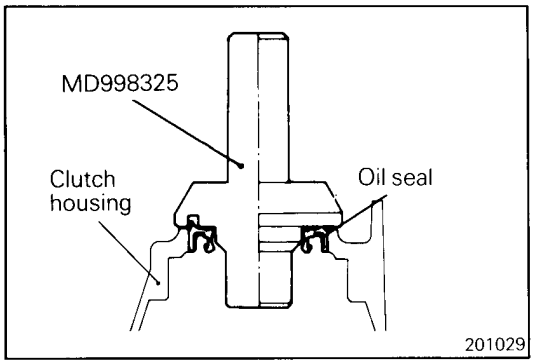
0.05 – 0.17 mm (0.002 – 0.007 in.) ..... F4M21, F5M21 (Up to JUN. 1987)

0.05 – 0.10 mm (0.002 – 0.004 in.) ..... F4M21, F5M21 (From JUL. 1987) F5M22, F5M31, F5M33

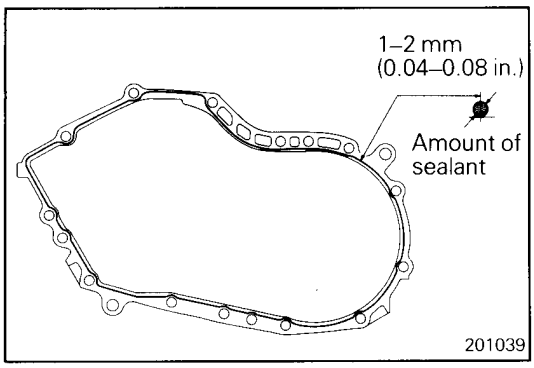
Differential case

0.05 – 0.17 mm (0.002 – 0.007 in.) F4M21, F5M21

0.05 – 0.10 mm (0.002 – 0.004 in.) F5M22, F5M31, F5M33



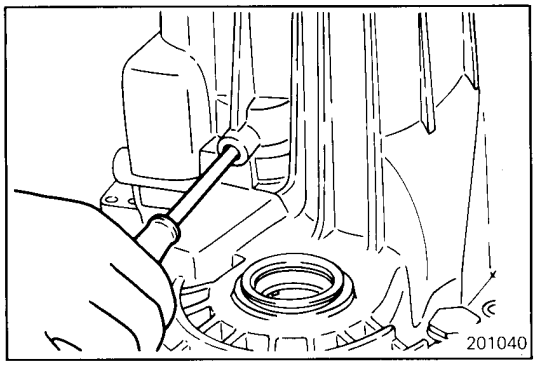
[I] INSTALLATION OF OIL SEAL FOR DRIVE SHAFT



[J] APPLICATION OF SEALANT TO TRANSMISSION CASE

(1) Squeeze out sealant from the tube uniformly without excess or discontinuity.

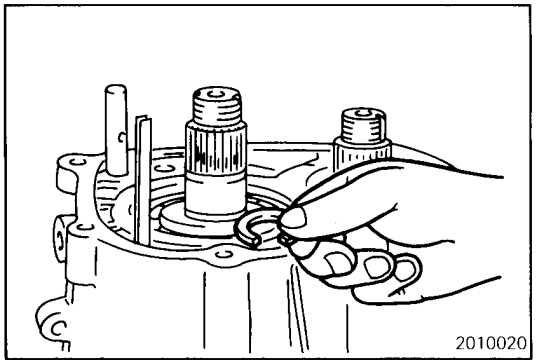
Specified sealant: Mitsubishi genuine sealant Part No. MD997740 or equivalent



[K] INSTALLATION OF REVERSE IDLER GEAR SHAFT BOLT

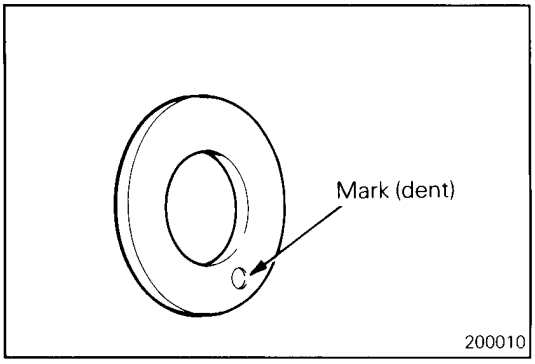
(1) Center the shaft with a Phillips screwdriver [shaft diameter 8 mm (0.32 in.)] or the like.

(2) Tighten the reverse idler gear shaft bolt to specified torque.



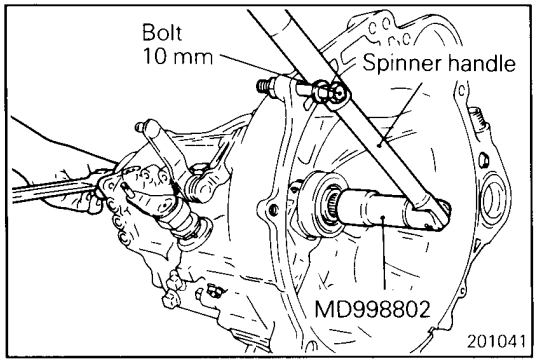
[L] INSTALLATION OF SNAP RING

(1) Select the thickest snap ring that can be fitted into the snap ring groove.



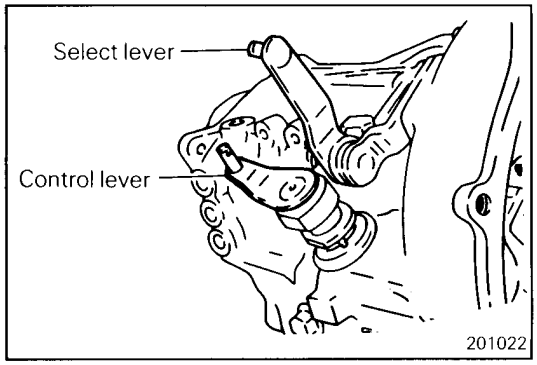
[M] INSTALLATION OF DISHED WASHER

(1) Install the dished washer with the face identified by mark (dent) toward lock nut.

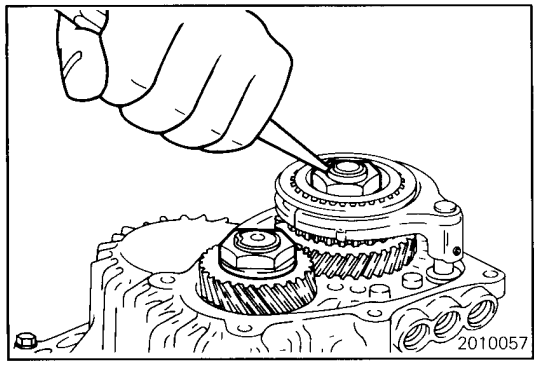


[N] INSTALLATION OF LOCK NUTS FOR INPUT SHAFT / INTERMEDIATE GEAR

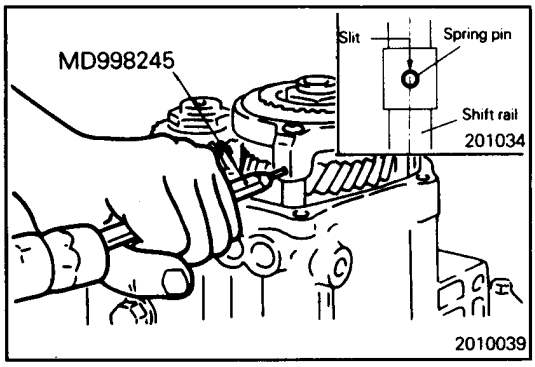
(1) Install the special tool onto the input shaft.
(2) Screw a bolt (10 mm) into the hole on the periphery of clutch housing and attach a spinner handle to the special tool.



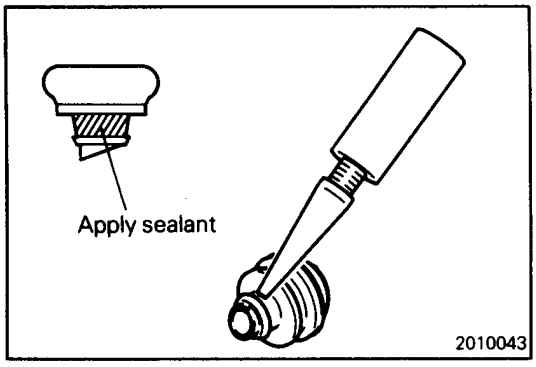
(3) Shift the transmission in reverse using control lever and select lever.
(4) Tighten the lock nut to specified torque, while using the bolt attached in the above step as a spinner handle stopper.



(5) Stake the lock nut.

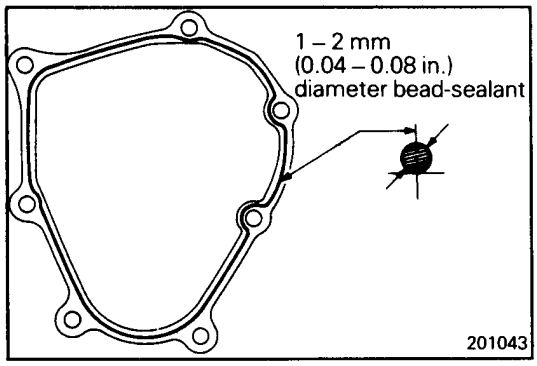


O INSTALLATION OF SPRING PIN FOR OD-R SHIFT FORK



P APPLICATION OF SEALANT TO AIR BREATHER

Specified sealant: 3M SUPER WEATHERSTRIP No. 8001 or equivalent

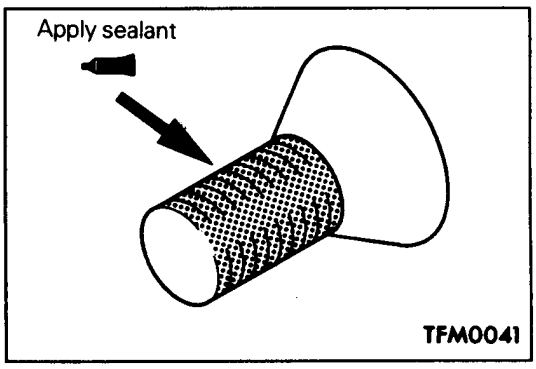


Q APPLICATION OF SEALANT TO REAR COVER

Specified sealant: Mitsubishi genuine sealant Part No. MD997740 or equivalent

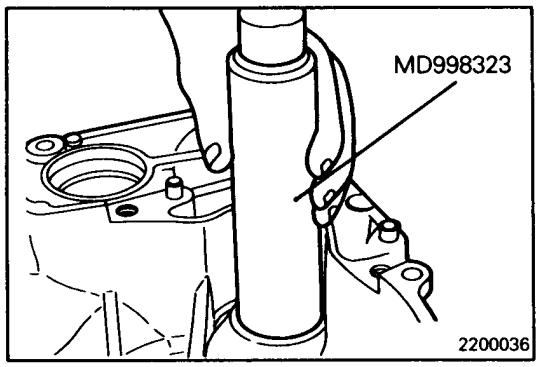
Caution

- **Squeeze out sealant from the tube uniformly without excess or discontinuity.**

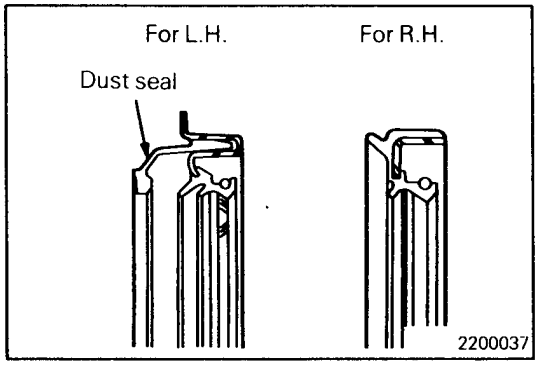


R APPLICATION OF SEALANT TO MACHINE SCREW

Specified sealant: 3M STUD Locking No. 4170 or equivalent



S INSTALLATION OF OIL SEAL

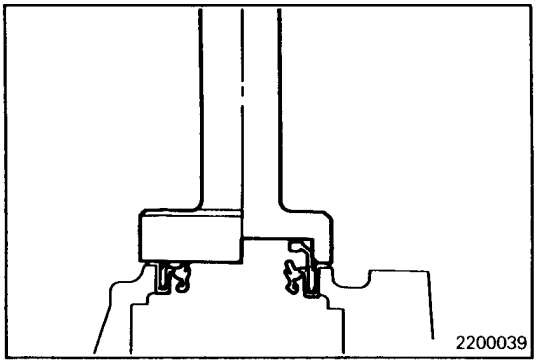


T INSTALLATION OF OIL SEAL

(1) Install the drive shaft oil seals, the correct ones on correct sides, using the special tool.

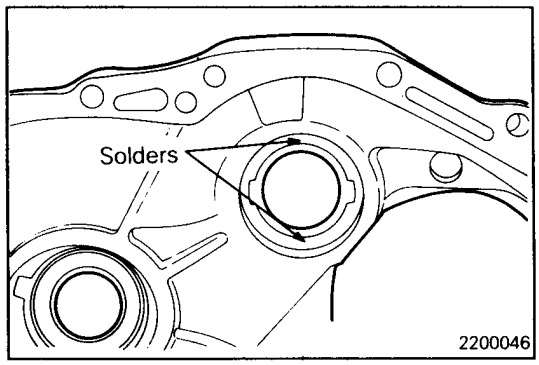
Caution

- **Install in such position that the notch of the L.H. oil seal flange faces up as installed on vehicle.**

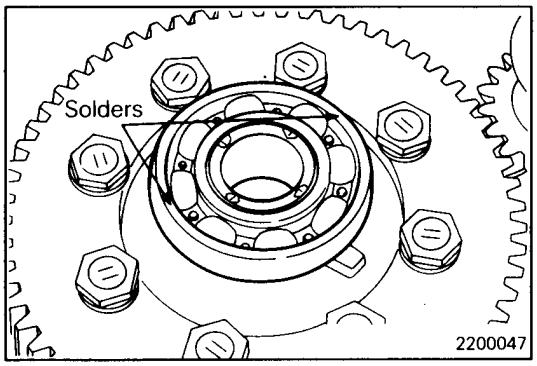


U INSTALLATION OF SPACERS

(1) Place two pieces of solder measuring about 10 mm (0.39 in.) in length and 3 mm (0.12 in.) in diameter at illustrated locations on the transmission and install each outer race.

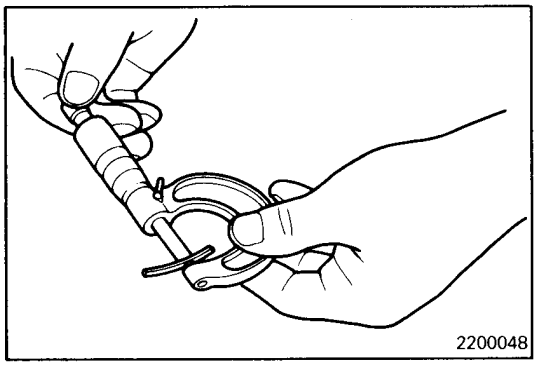


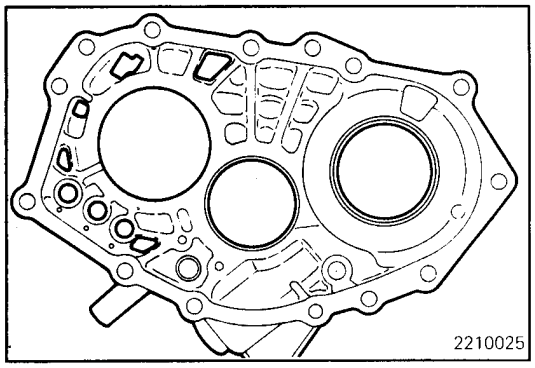
(2) Place two pieces of solder measuring about 10 mm (0.39 in.) in length and 3 mm (0.12 in.) in diameter on the bearing outer race as shown in illustration.
(3) Install the transmission case and tighten the bolts to specified torque.
(4) Remove the transmission case and remove the solder.



(5) Measure the thickness of the crushed solder with a micrometer and select and install a spacer of thickness that gives standard end play.

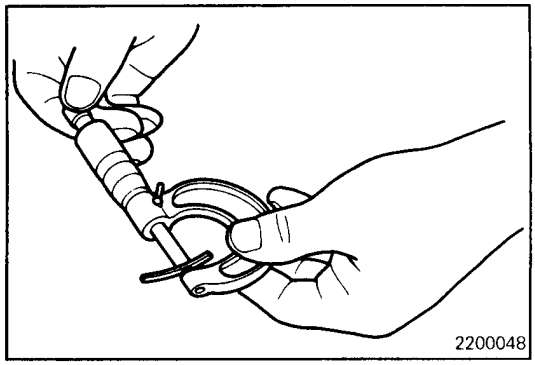
Standard value:
Front output shaft bearing preload:
0.08 – 0.13 mm (0.0031 – 0.0051 in.)
Front differential case end play:
0.05 – 0.17 mm (0.0020 – 0.0067 in.)





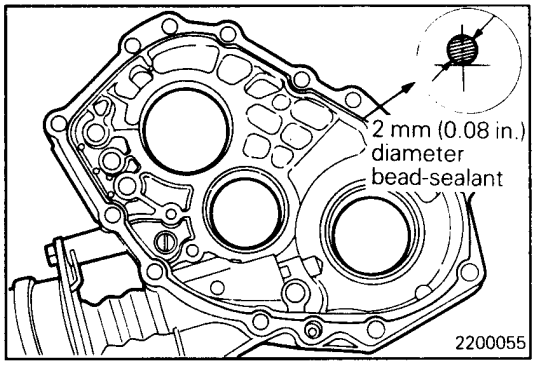
V INSTALLATION OF SPACERS

(1) Place two pieces of solder measuring about 10 mm (0.39 in.) in length and 3 mm (0.12 in.) in diameter at illustrated locations on the transmission case adapter assembly and install each outer race.
(2) Install the transmission case adapter assembly and rear cover and tighten the bolts to specified torque.
(3) Remove the transmission case adapter assembly and rear cover.



(4) Remove each outer race and remove the solder. Measure the thickness of the crushed solder with a micrometer and select and install a spacer of thickness that gives standard end play and preload.

Standard value:
Intermediate gear preload:
0.08 – 0.13 mm (0.0031 – 0.0051 in.)
Center differential case preload:
0.08 – 0.13 mm (0.0031 – 0.0051 in.)
Input shaft end play:
0 – 0.05 mm (0 – 0.0020 in.) W5M33

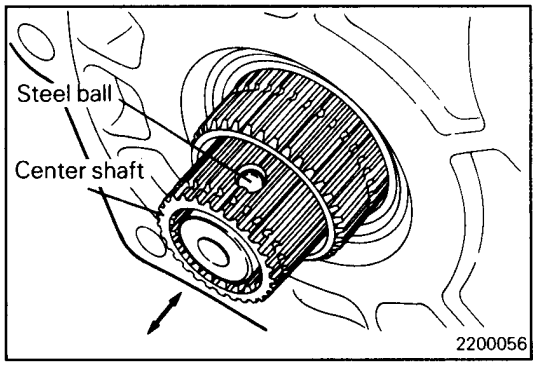


W INSTALLATION OF TRANSMISSION CASE ADAPTER ASSEMBLY

(1) Apply specified sealant (liquid gasket) to the transmission case side of the transmission case adapter assembly.

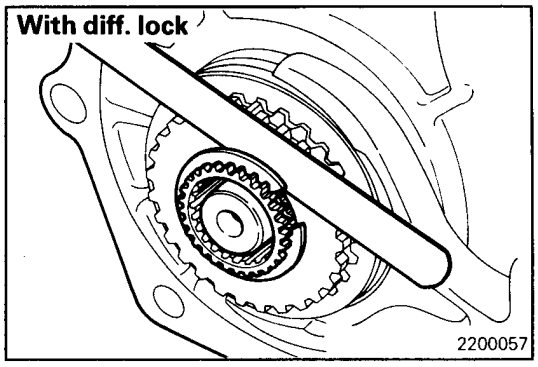
Specified sealant: Mitsubishi genuine sealant Part No. MD997740 or equivalent

Caution
- **Squeeze out sealant from the tube uniformly without excess or discontinuity.**



X INSTALLATION OF STEEL BALLS

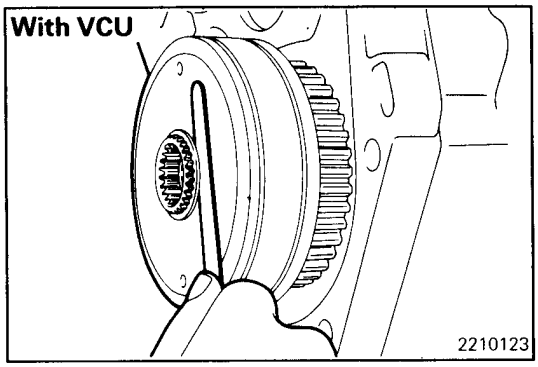
(1) Move the center shaft so that the steel balls are securely seated in the grooves.



Y INSTALLATION OF SNAP RING

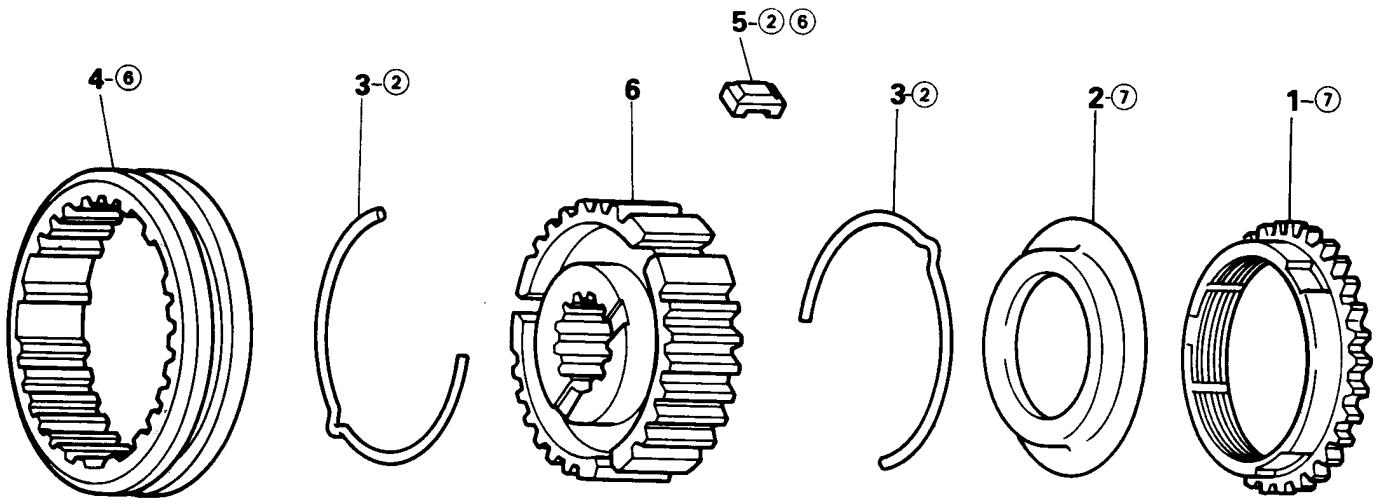
(1) Choose a snap ring that gives the standard end play of the clutch gear and install it.

Standard value:
Clutch gear: 0.10 – 0.26 mm (0.0039 – 0.0102 in.)



4. 5TH SPEED SYNCHRONIZER <5-speed Model Only>

DISASSEMBLY AND REASSEMBLY



Disassembly steps

1. Reverse brake ring
2. Stop plate
3. Synchronizer spring [B]
4. Synchronizer sleeve [A]
5. Synchronizer key [A]
6. Synchronizer hub [A]

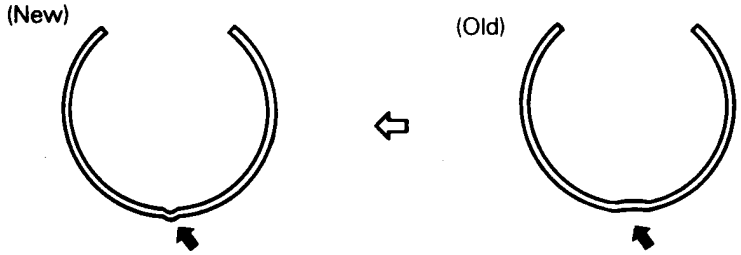
NOTE
②⑥⑦: Refer to "Details of Change" table.

TFM0055

Details of Change

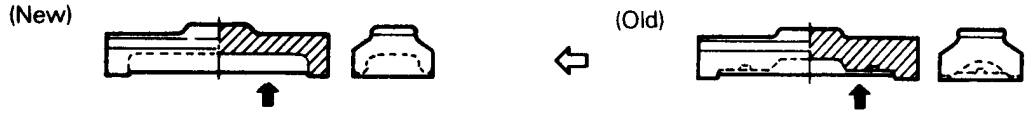
②

Synchronizer spring



2010069 2010044

Synchronizer key

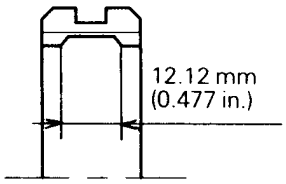


2010070 2010060

⑥

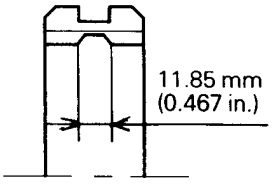
Synchronizer sleeve

(New)



2010071

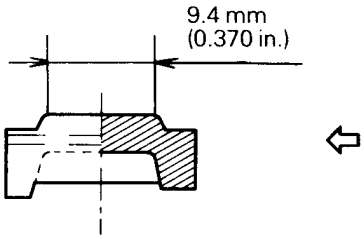
(Old)



2010061

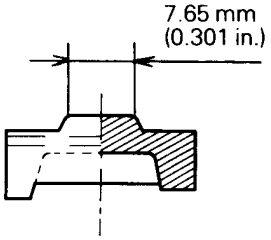
Synchronizer key

(New)



2010072

(Old)

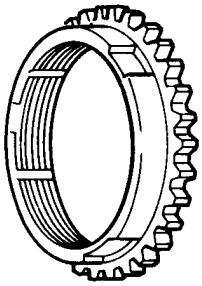


2010062

⑦

Reverse brake ring

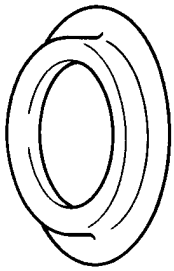
(New)



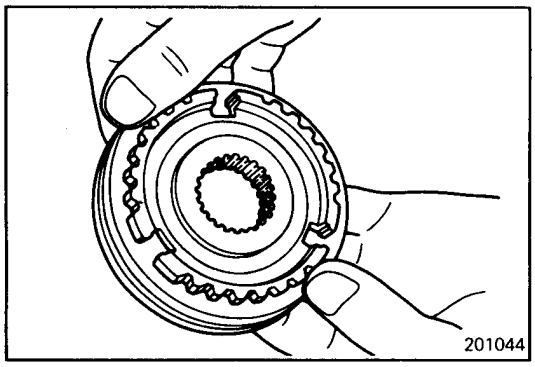
TFM0081

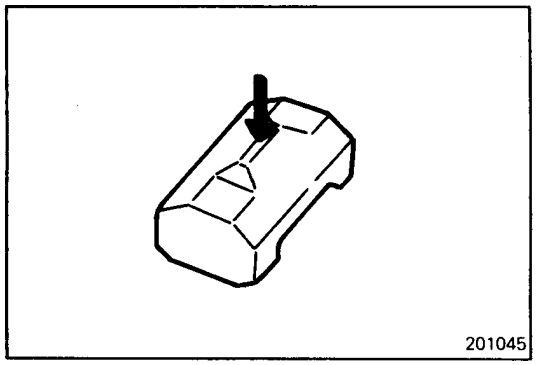
Stop plate

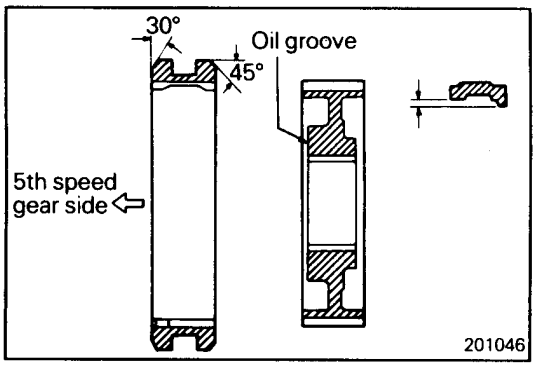
(Old)

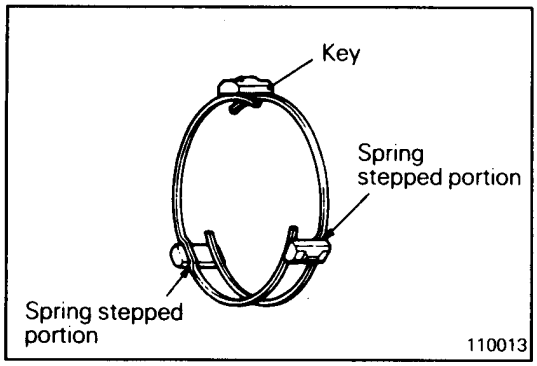


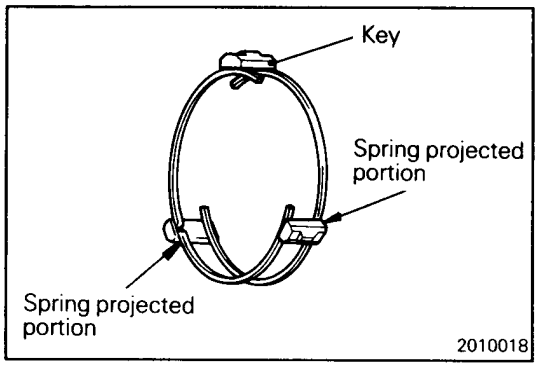
TFM0082











INSPECTION

SYNCHRONIZER SLEEVE AND HUB

(1) Combine the synchronizer sleeve and hub and check that they slide smoothly.
(2) Check that the sleeve is free from damage at its inside front and rear ends.
(3) Check for wear of the hub front end (surface in contact with the 5th speed gear).

Caution
- **When replacing, replace the synchronizer hub and sleeve as a set.**

SYNCHRONIZER KEY AND SPRING

(1) Check for wear of the synchronizer key center protrusion.
(2) Check the spring for weakness, deformation and breakage.

SERVICE POINTS OF REASSEMBLY

[A] INSTALLATION OF SYNCHRONIZER HUB / SYNCHRONIZER KEY / SYNCHRONIZER SLEEVE

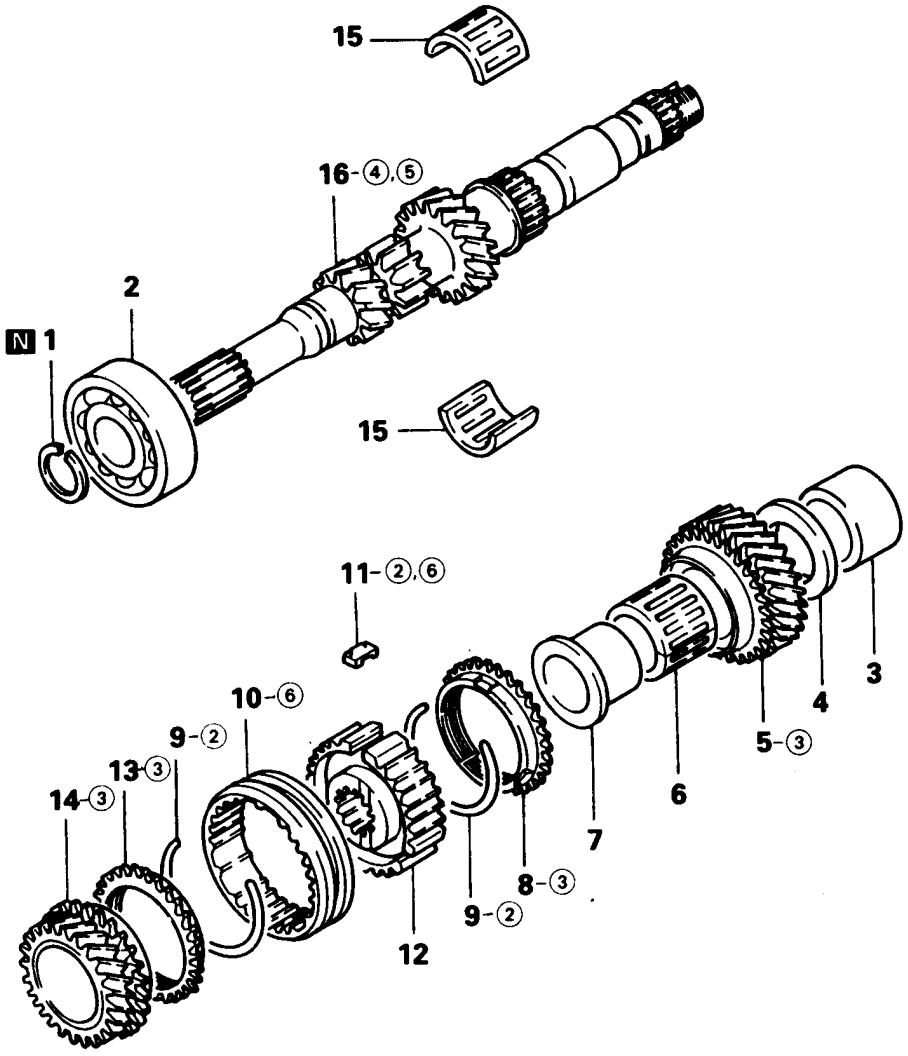
[B] INSTALLATION OF SYNCHRONIZER SPRING

(1) When installing the synchronizer springs, be sure to position each spring with respect to the keys as illustrated.

5. INPUT SHAFT

F4M21, F5M21

DISASSEMBLY AND REASSEMBLY



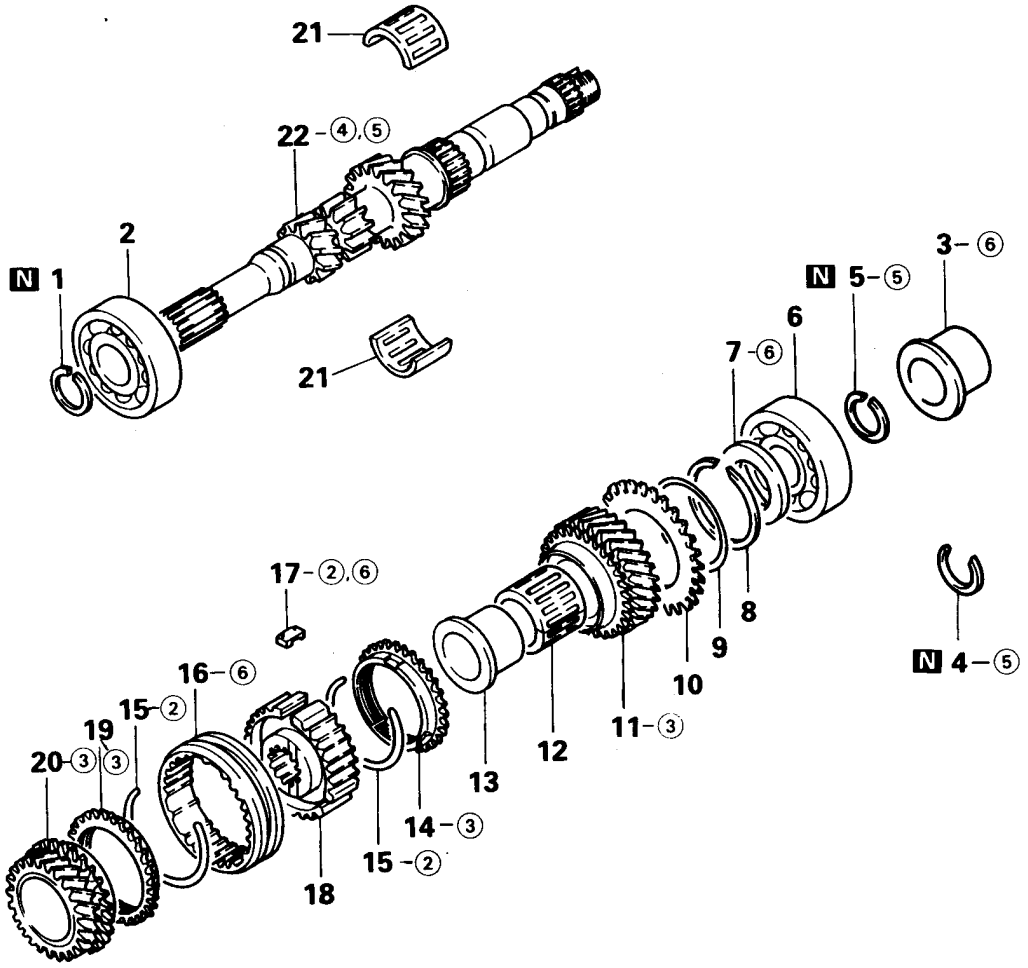
Disassembly steps

- [K] 1. Snap ring
- Ⓐ [J] 2. Ball bearing
- [F] 3. Inner ring
- [E] 4. Spacer
- Ⓒ 5. 4th speed gear
- 6. Needle bearing
- [C] 7. Bearing sleeve
- 8. Synchronizer ring
- [B] 9. Synchronizer spring
- [A] 10. 3rd-4th speed synchronizer sleeve
- [B] 11. Synchronizer key
- [A] 12. 3rd-4th speed synchronizer hub
- 13. Synchronizer ring
- Ⓒ 14. 3rd speed gear
- 15. Needle bearing
- 16. Input shaft

NOTE
②③④⑤⑥: Refer to "Details of Change" table.

201047

F5M22, F5M31, W5M31



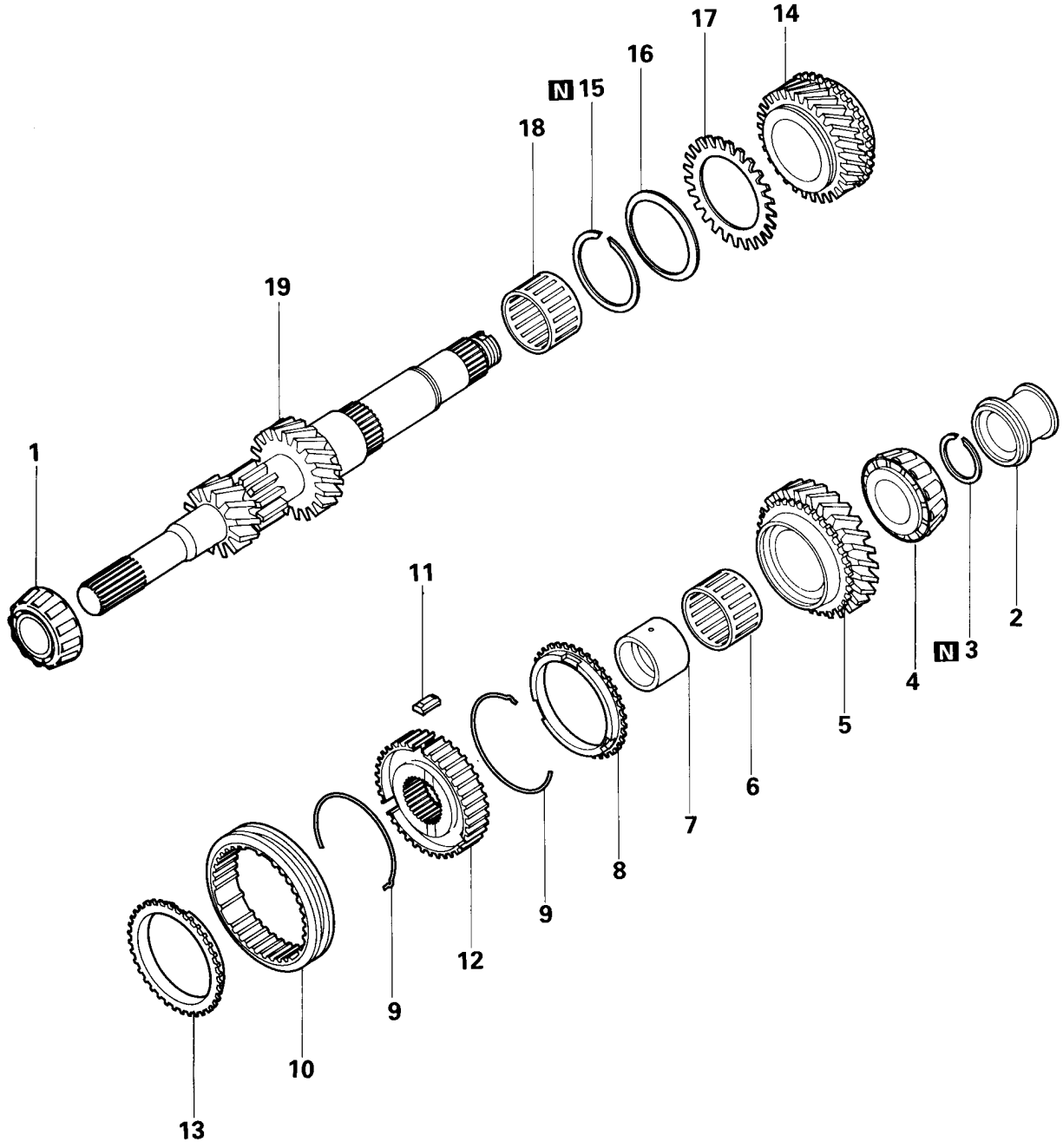
Disassembly steps

- [K] 1. Snap ring
- Ⓐ [J] 2. Ball bearing
- Ⓑ [I] 3. Bearing sleeve
- [H] 4. Snap ring (From DEC. 1987 – F5M22)
- [H] 5. Snap ring (From DEC. 1987 – F5M31)
- Ⓒ [G] 6. Ball bearing
- [E] 7. Spacer
- [D] 8. Snap ring (KM206-0-EKPH, F5M31)
- [D] 9. Cone spring (KM206-0-EKPH, F5M31)
- [D] 10. Subgear (KM206-0-EKPH, F5M31)
- 11. 4th speed gear
- 12. Needle bearing
- [C] 13. Bearing sleeve
- 14. Synchronizer ring
- [B] 15. Synchronizer spring
- [A] 16. 3rd-4th speed synchronizer sleeve
- [B] 17. Synchronizer key
- [A] 18. 3rd-4th speed synchronizer hub
- 19. Synchronizer ring
- Ⓓ 20. 3rd speed gear
- 21. Needle bearing
- 22. Input shaft

NOTE
②③④⑤⑥: Refer to "Details of Change" table.

2060014

F5M33, W5M33



Disassembly steps

- Ⓐ K 1. Taper roller bearing
- Ⓑ J 2. Bearing sleeve
- I 3. Snap ring
- Ⓓ G 4. Taper roller bearing
- 5. 4th speed gear
- 6. Needle bearing
- C 7. Bearing sleeve
- 8. Synchronizer ring
- B 9. Synchronizer spring
- A 10. 3rd-4th speed synchronizer sleeve
- B 11. Synchronizer key
- A 12. 3rd-4th speed synchronizer hub
- 13. Synchronizer ring
- Ⓓ 14. 3rd speed gear
- D 15. Snap ring
- D 16. Cone spring
- D 17. Sub gear
- 18. Needle bearing
- 19. Input shaft

TFM0250

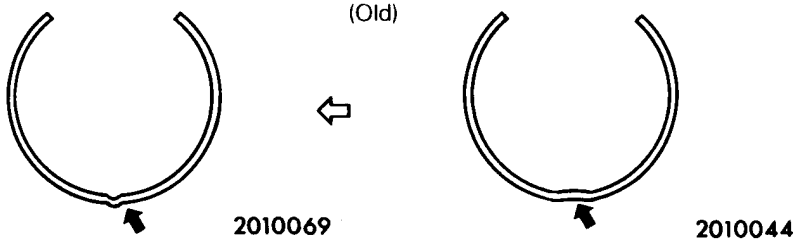
Intentionally blank

Details of Change

②

Synchronizer spring for 3rd-4th speed

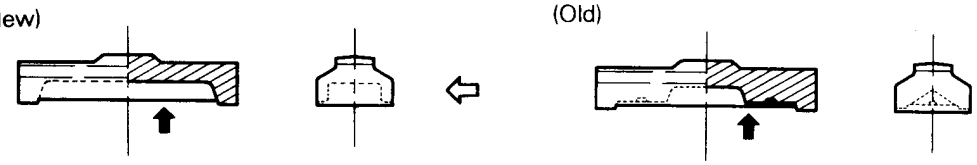
(New) (Old)



2010069 2010044

Synchronizer key for 3rd-4th speed

(New) (Old)



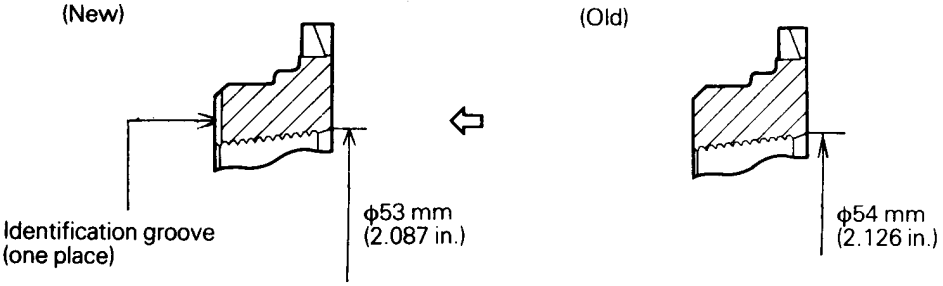
Recess made deeper.

2010073 2010045

③

Synchronizer ring for 3rd-4th speed
(F4M21, F5M21, F5M22)

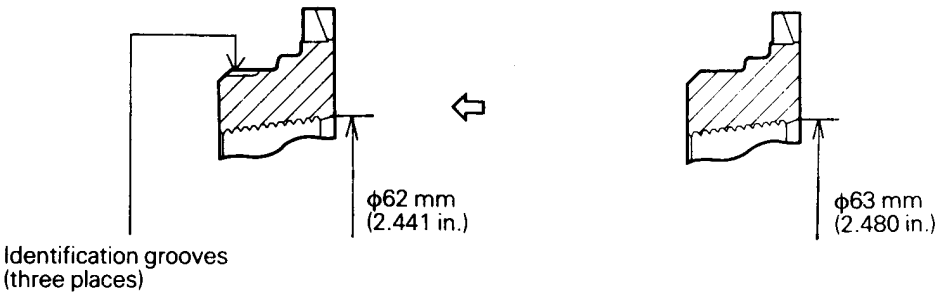
(New) (Old)



2010064 2010046

(F5M31, W5M31)

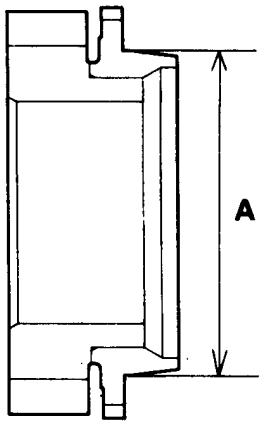
(New) (Old)



2010031 2010046

③

3rd speed gear



TFM0083

(F4M21, F5M21, F5M22)

(New) (Old)

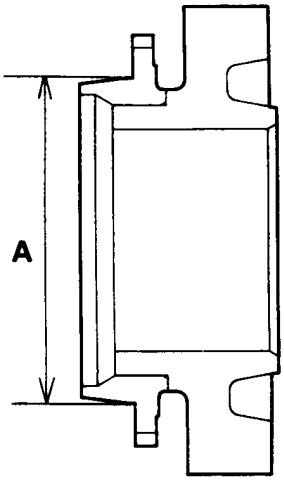
A = 53 mm ⇦ 54 mm

(F5M31, W5M31)

(New) (Old)

A = 62 mm ⇦ 63 mm

4th speed gear



TFM0084

(F4M21, F5M21, F5M22)

(New) (Old)

A = 53 mm ⇦ 54 mm

(F5M31, W5M31)

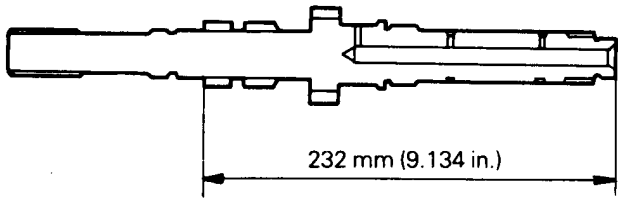
(New) (Old)

A = 53 mm ⇦ 54 mm

④

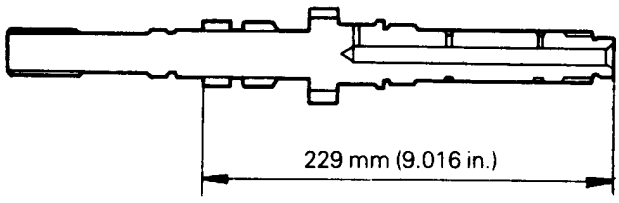
Input shaft

(New)



⇧ 2010048

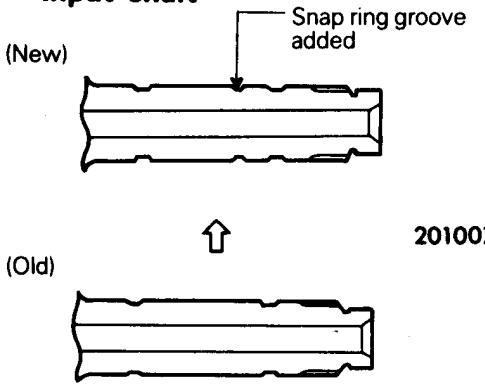
(Old)



2010048

⑤

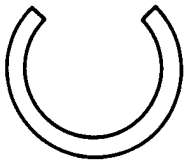
Input shaft



2010074

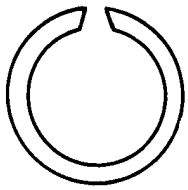
2010049

Snap ring
(F5M22)



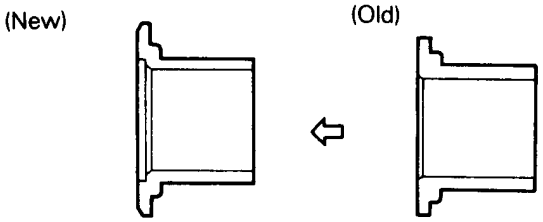
2010075

(F5M31, W5M31)



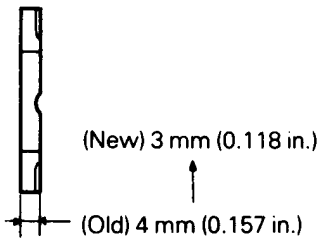
2010050

Bearing sleeve



2060024 2060026

Spacer (F5M31, W5M31)



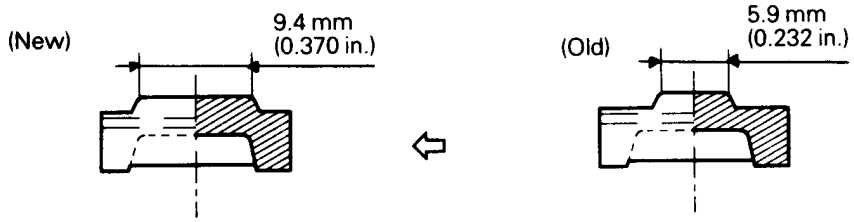
2100035

⑥

Synchronizer sleeve

2010071 2010061

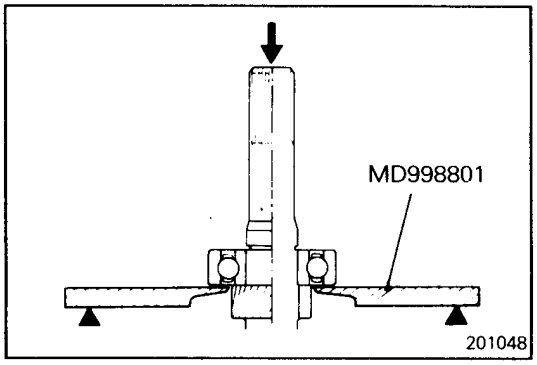
Synchronizer key



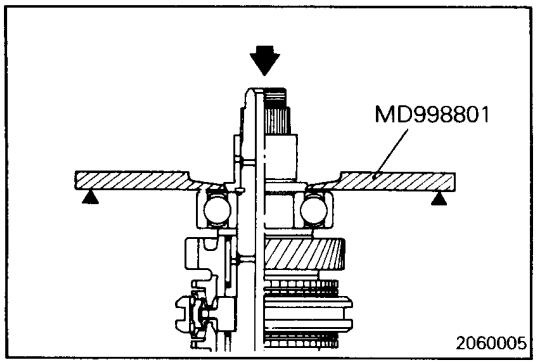
2010076 2010063

SERVICE POINTS OF REASSEMBLY

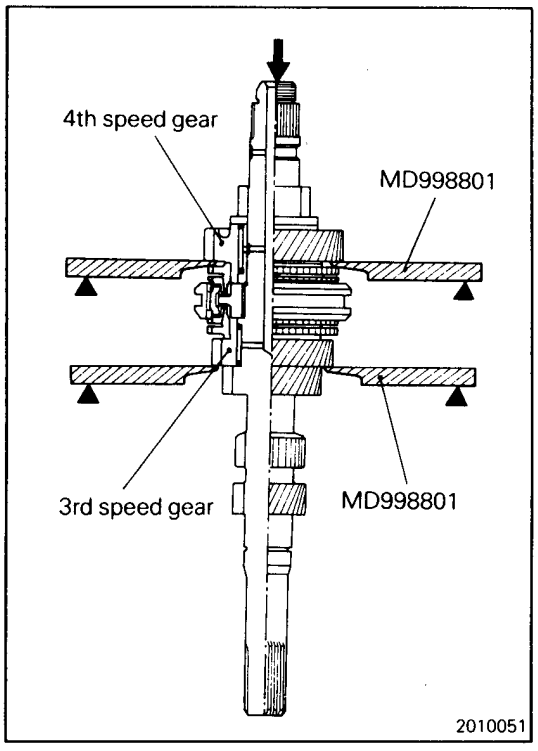
Ⓐ REMOVAL OF FRONT BALL BEARING

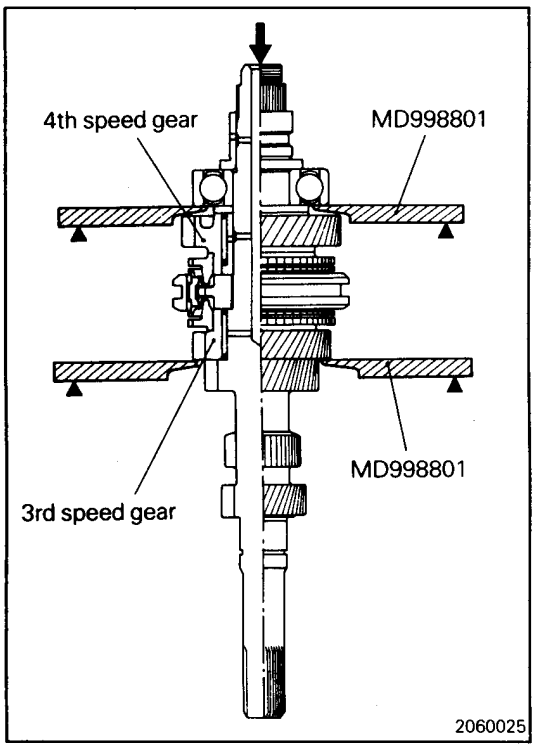


Ⓑ REMOVAL OF BEARING SLEEVE FOR 5TH SPEED GEAR

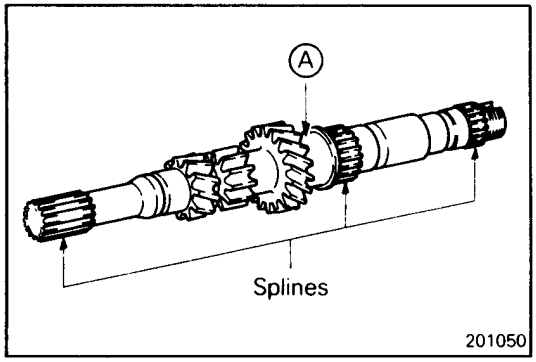


Ⓒ REMOVAL OF 4TH SPEED GEAR / 3RD SPEED GEAR





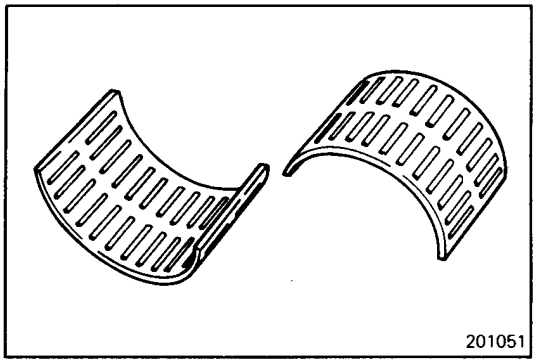
Ⓓ REMOVAL OF REAR BALL BEARING / 3RD SPEED GEAR



INSPECTION

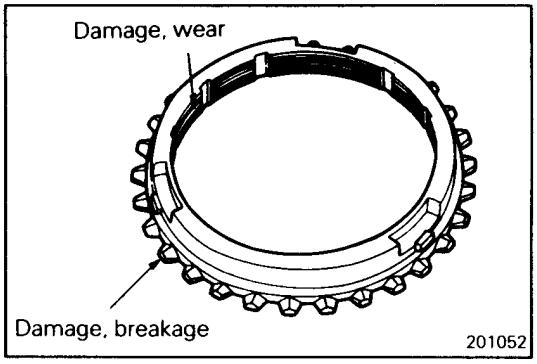
INPUT SHAFT

(1) Check the outer surface of the input shaft where the needle bearing is mounted for damage, abnormal wear and seizure [portion A].
(2) Check the splines for damage and wear.



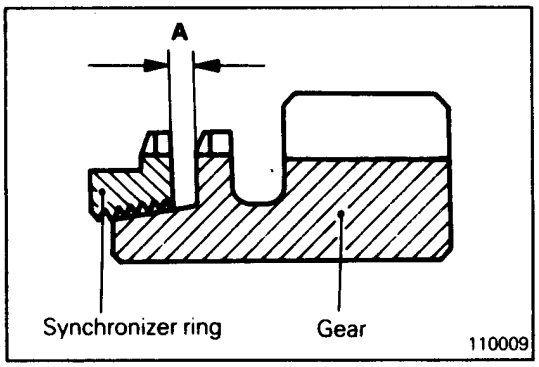
NEEDLE BEARING

(1) Combine the needle bearing with the shaft or bearing sleeve and gear and check that it rotates smoothly without abnormal noise or play.
(2) Check the needle bearing cage for deformation.

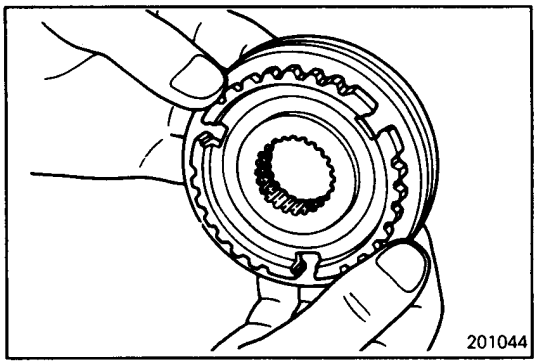


SYNCHRONIZER RING

(1) Check the clutch gear teeth for damage and breakage.
(2) Check the internal surface for damage, wear and broken threads.



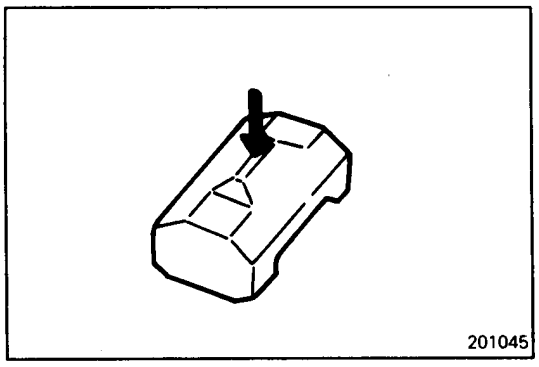
(3) Force the synchronizer ring toward the clutch gear and check clearance "A". Replace if it is out of specification.
Limit: 0.5 mm (0.02 in.)



SYNCHRONIZER SLEEVE AND HUB

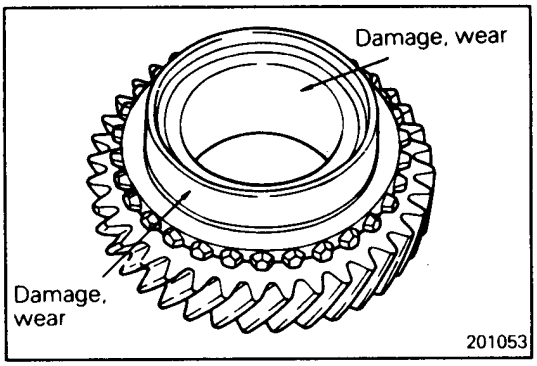
(1) Combine the synchronizer sleeve and hub and check that they slide smoothly.
(2) Check that the sleeve is free from damage at its inside front and rear ends.
(3) Check for wear of the hub end surfaces (in contact with each speed gear).

Caution
- **When replacing, replace the synchronizer hub and sleeve as a set.**



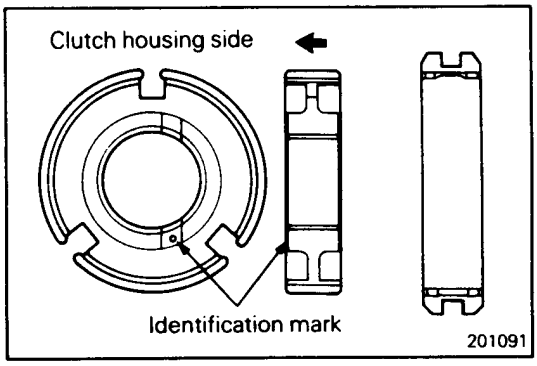
SYNCHRONIZER KEY AND SPRING

(1) Check for wear of the synchronizer key center protrusion.
(2) Check the spring for weakness, deformation and breakage.



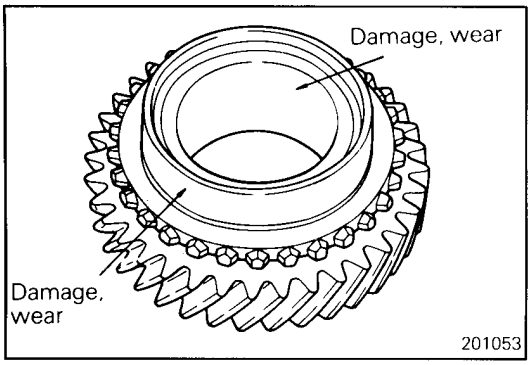
SPEED GEARS

(1) Check the synchronizer cone for rough surface, damage and wear.
(2) Check the gear bore and front and rear ends for damage and wear.



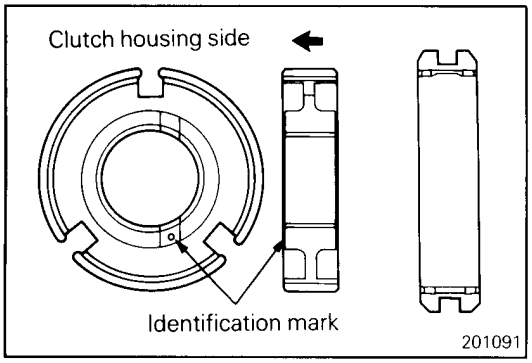
SERVICE POINTS OF REASSEMBLY

[A] INSTALLATION OF 3RD-4TH SPEED SYNCHRONIZER HUB / 3RD-4TH SPEED SYNCHRONIZER SLEEVE



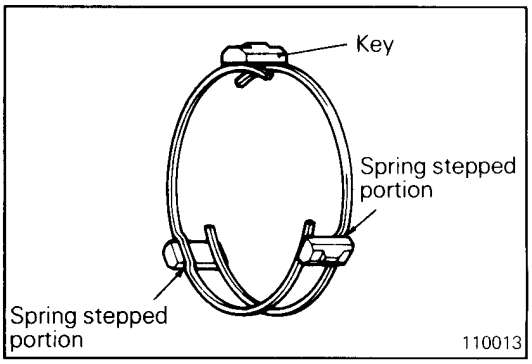
SPEED GEARS

(1) Check the synchronizer cone for rough surface, damage and wear.
(2) Check the gear bore and front and rear ends for damage and wear.



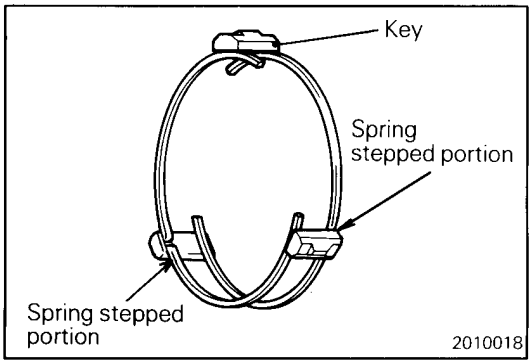
SERVICE POINTS OF REASSEMBLY

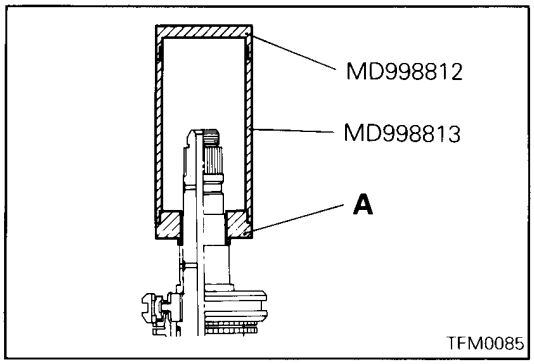
A INSTALLATION OF 3RD-4TH SPEED SYNCHRONIZER HUB / 3RD-4TH SPEED SYNCHRONIZER SLEEVE



B INSTALLATION OF SYNCHRONIZER SPRING / SYNCHRONIZER KEY

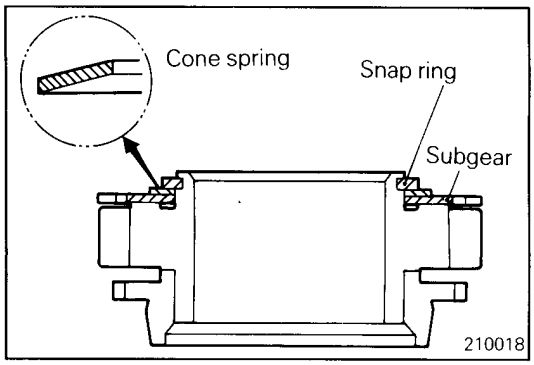
(1) When installing the synchronizer springs, be sure to position each spring with respect to the keys as illustrated.



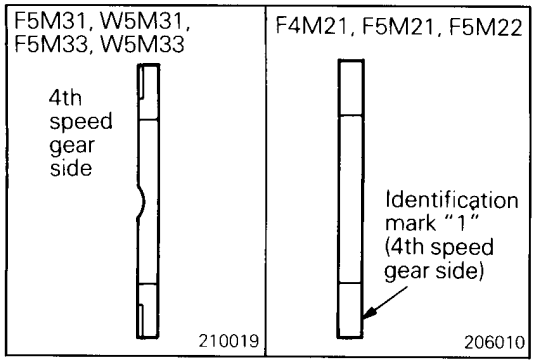


C INSTALLATION OF BEARING SLEEVE FOR 4TH SPEED GEAR

	F5M21, F5M22	F5M31, F5M33, W5M31, W5M33
A	MD998817	MD998818

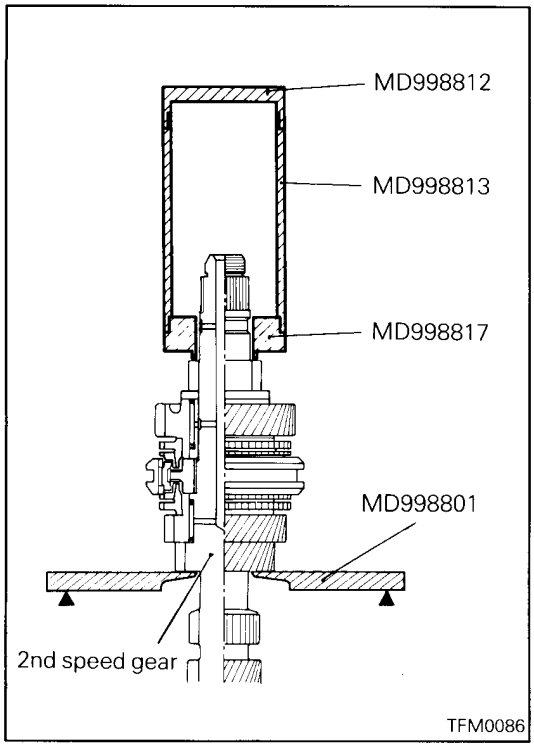


D INSTALLATION OF SUB GEAR / CONE SPRING / SNAP RING

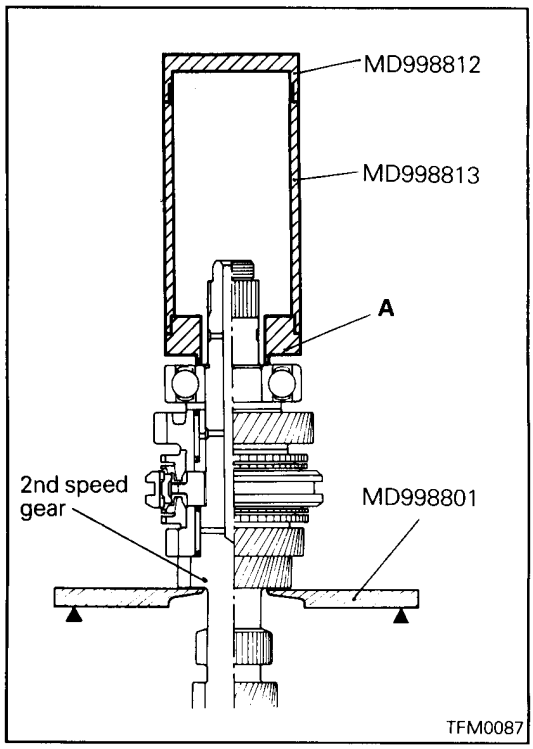


E INSTALLATION OF SPACER

(1) Install with the side having the identification mark "1" on the 4th speed gear side. Spacers without identification mark may be installed in either direction.

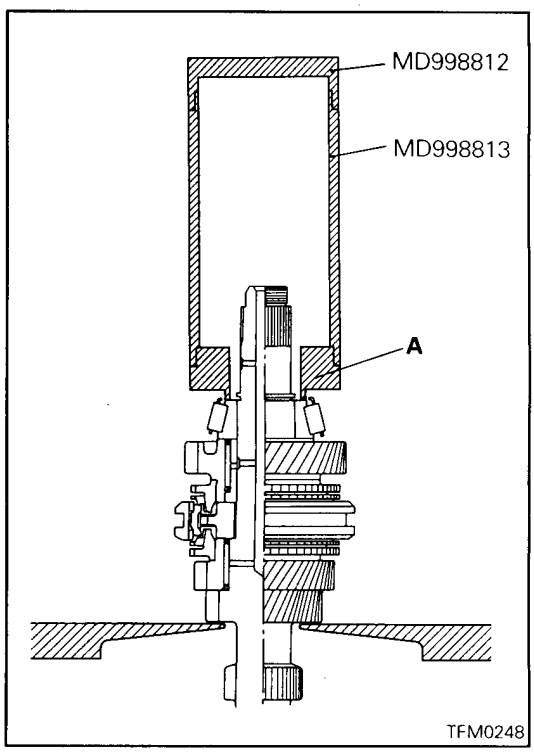


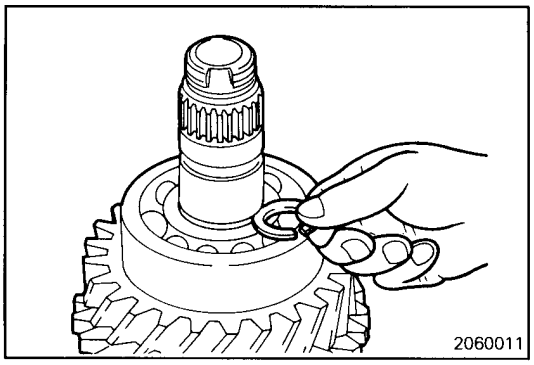
F INSTALLATION OF INNER RING FOR REAR BEARING



G INSTALLATION OF REAR BALL BEARING

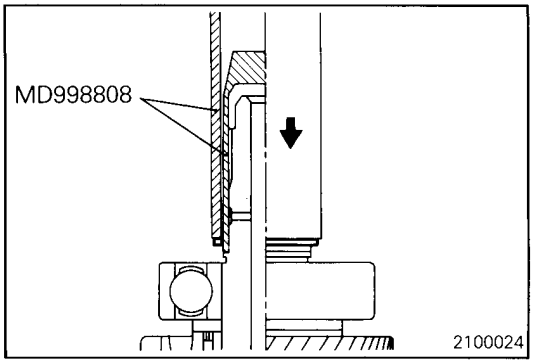
	F5M22	F5M31, F5M33, W5M31, W5M33
A	MD998817	MD998818



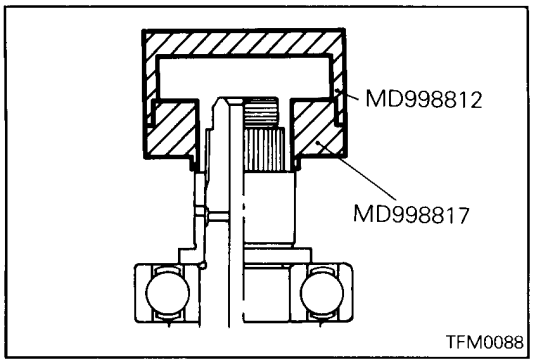


H INSTALLATION OF SNAP RING

(1) Select the thickest snap ring that can be fitted in the snap ring groove.

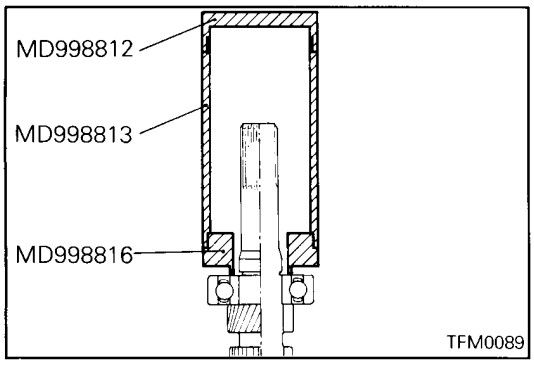


Caution
- **Do not reuse the snap ring.**
- **The snap ring may be opened too wide by pliers, resulting in inproper installation of the sleeve.**

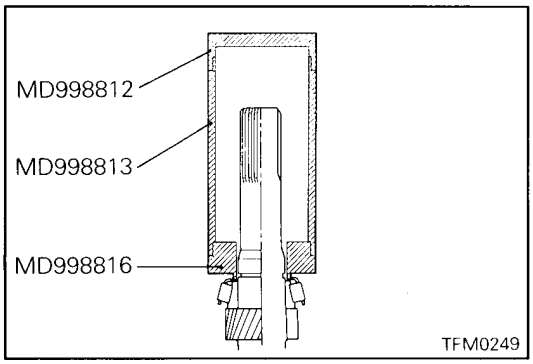


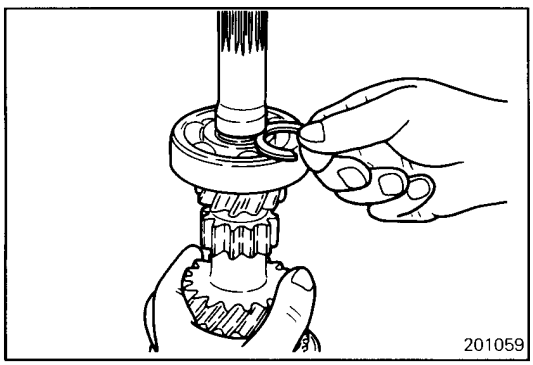
I INSTALLATION OF BEARING SLEEVE FOR 5TH SPEED GEAR

Caution
- **When press-fitting the sleeve to the input shaft, make sure that the sleeve flange is closely fitted to the bearing.**



J INSTALLATION OF FRONT BALL BEARING / FRONT TAPER ROLLER BEARING





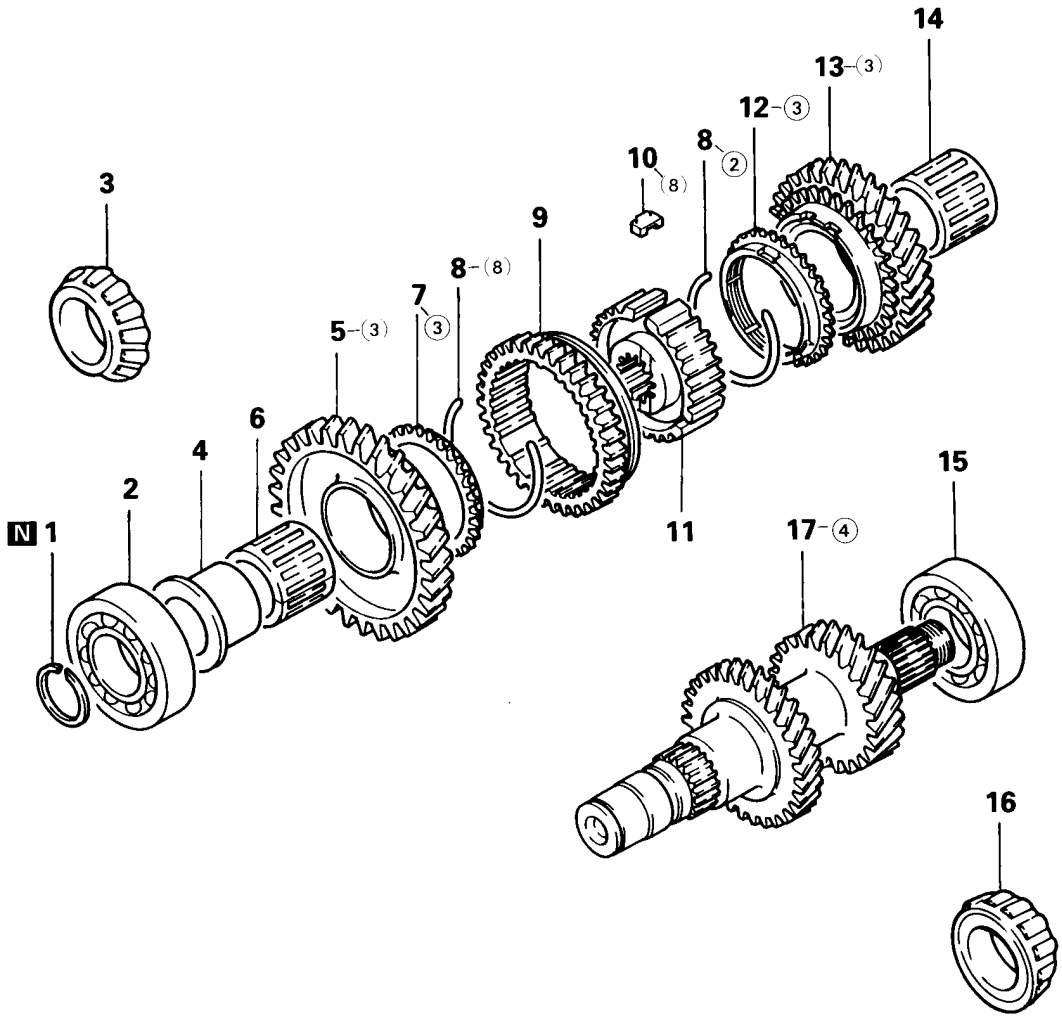
K INSTALLATION OF SNAP RING

(1) Snap rings are available in three different thickness. Select the thickest one that fits in the snap ring groove.

Caution
- **Do not damage the input shaft oil seal contacting portion.**

6. INTERMEDIATE GEAR

DISASSEMBLY AND REASSEMBLY



Disassembly steps

	I	1. Snap ring
(A)	H	2. Ball bearing (F4M21, F5M21)
(A)	G	3. Taper roller bearing (F5M22, F5M31, F5M33, W5M31, W5M33)
	F	4. Bearing sleeve
(A)		5. 1st speed gear
		6. Needle bearing
	C	7. Synchronizer ring
	E	8. Synchronizer spring
	D	9. 1st-2nd speed synchronizer sleeve
	D	10. Synchronizer key
(B)	D	11. 1st-2nd speed synchronizer hub
	C	12. Synchronizer ring
(B)		13. 2nd speed gear
		14. Needle bearing
(C)	B	15. Ball bearing (F4M21, F5M21)
(D)	A	16. Taper roller bearing (F5M22, F5M31, F5M33, W5M31, W5M33)
		17. Intermediate gear

NOTE
②③④⑧: Refer to "Details of Change" table

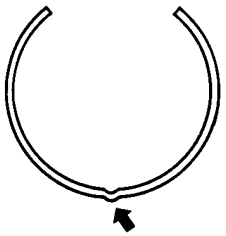
201060

Details of Change

②

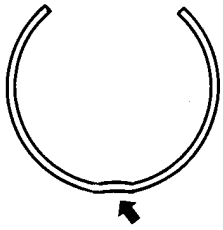
Synchronizer spring for 1st-2nd speed

(New)



2010069

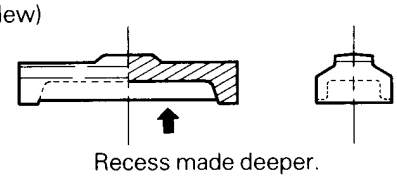
(Old)



2010044

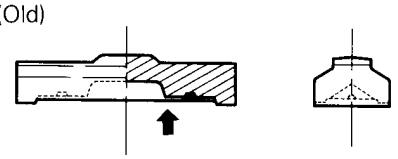
Synchronizer key for 1st-2nd speed

(New)



2010073

(Old)

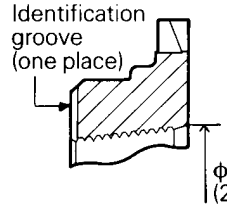


2010045

③

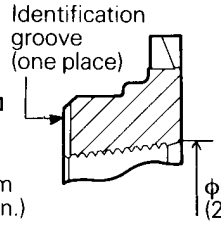
Synchronizer ring for 1st speed (F4M21, F5M21, F5M22)

(New)



2010064

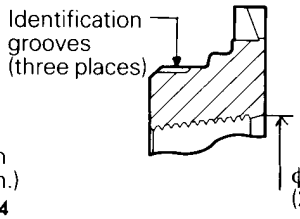
(Old)



2010064

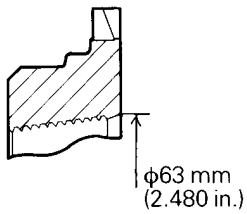
Synchronizer ring for 2nd speed (F4M21, F5M21, F5M22)

(New)



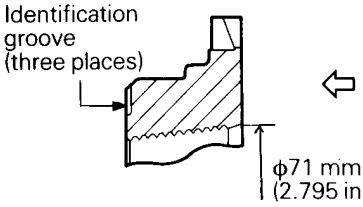
2010031

(Old)

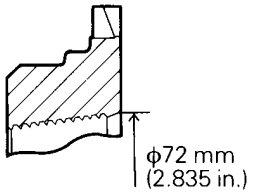


2010046

Synchronizer ring for 1st speed (F5M31, W5M31)



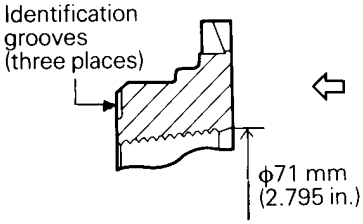
2010077



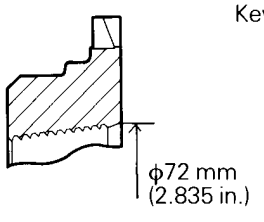
2010046

Key groove width ... 11.9 mm (0.469 in.)

Synchronizer ring for 2nd speed (F5M31, W5M31)

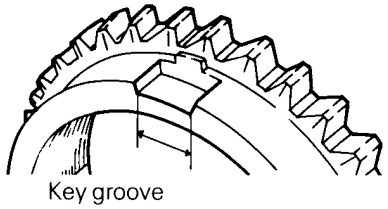


2010077



2010046

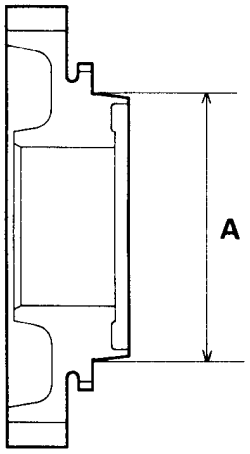
Key groove width ... 12.9 mm (0.508 in.)



2100036

③

1st speed gear



TFM0090

(F4M21, F5M21, F5M22)

(New) (Old)

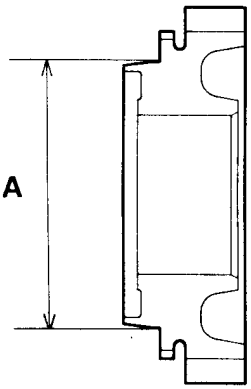
A = 62 mm ⇦ 63 mm

(F5M31, W5M31)

(New) (Old)

A = 71 mm ⇦ 72 mm

2nd speed gear



TFM0091

(F4M21, F5M21, F5M22)

(New) (Old)

A = 62 mm ⇦ 63 mm

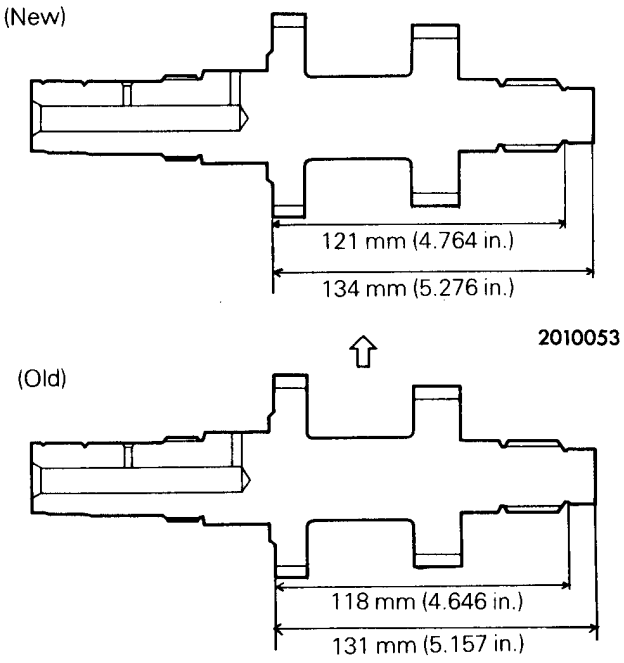
(F5M31, W5M31)

(New) (Old)

A = 71 mm ⇦ 72 mm

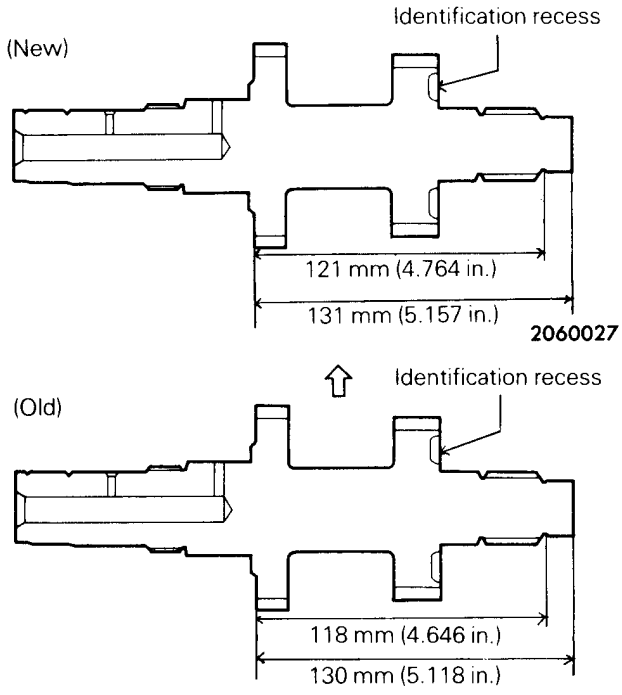
④

Intermediate gear (F5M21)

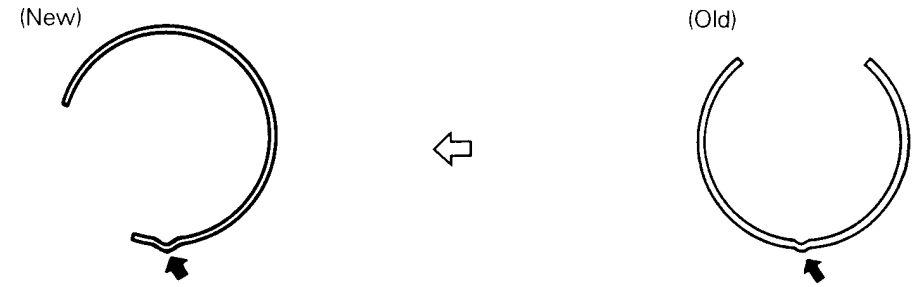


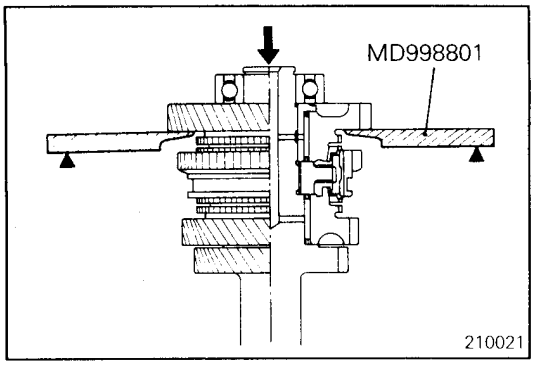
2010053

Intermediate gear (F5M22)



2060027

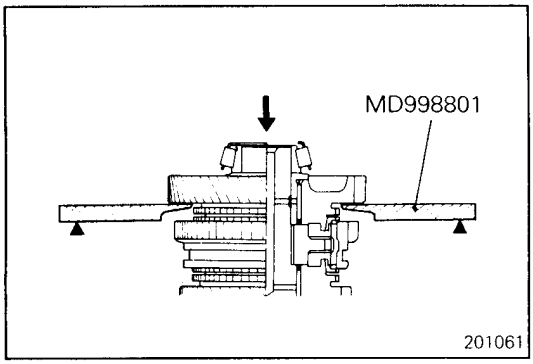
⑧	**Synchronizer spring for 1st-2nd speed**  TFM0244 2010069



SERVICE POINTS OF DISASSEMBLY

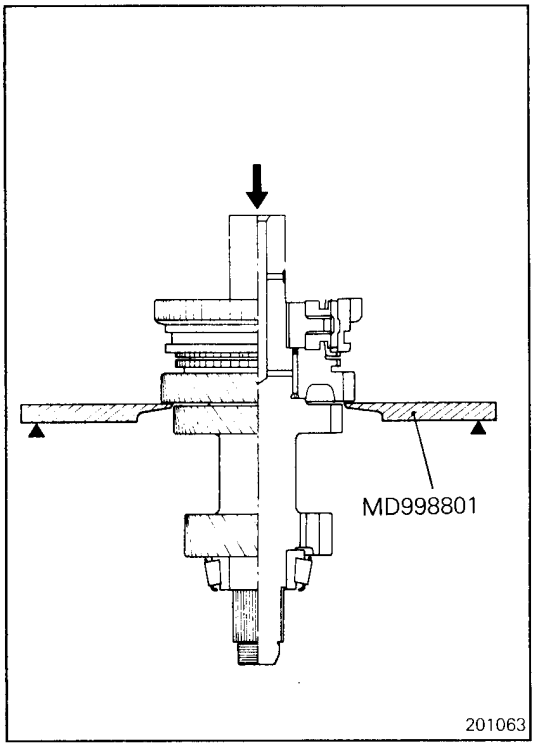
Ⓐ REMOVAL OF BALL BEARING /TAPER ROLLER BEARING / 1ST SPEED GEAR

Caution
- **Do not reuse the bearing removed from the shaft.**



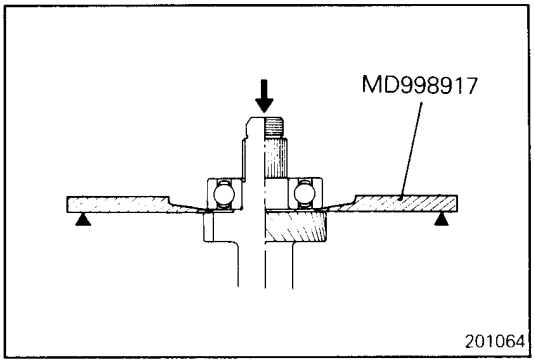
Caution
- **Do not reuse the bearing removed from the shaft.**
- **Replace the inner and outer races of the taper roller bearing as a set.**

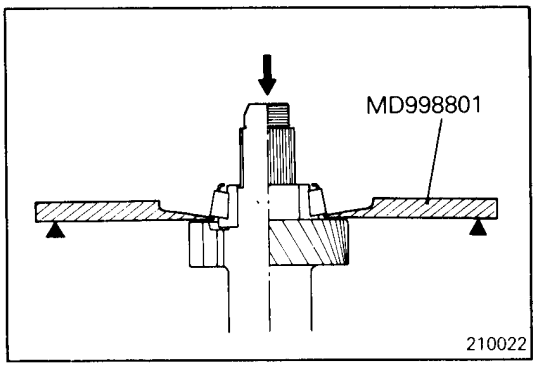
Ⓑ REMOVAL OF 1ST-2ND SPEED SYNCHRONIZER HUB / 2ND SPEED GEAR



Ⓒ REMOVAL OF BALL BEARING

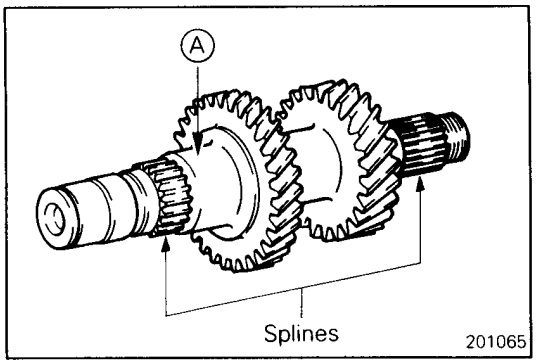
Caution
- **Do not reuse the bearing removed from the shaft.**





Ⓓ REMOVAL OF TAPER ROLLER BEARING

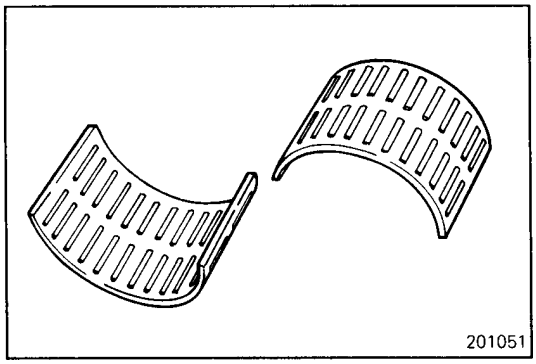
Caution
- **Do not reuse the bearing removed from the shaft.**
- **Replace the inner and outer races of the taper roller bearing as a set.**



INSPECTION

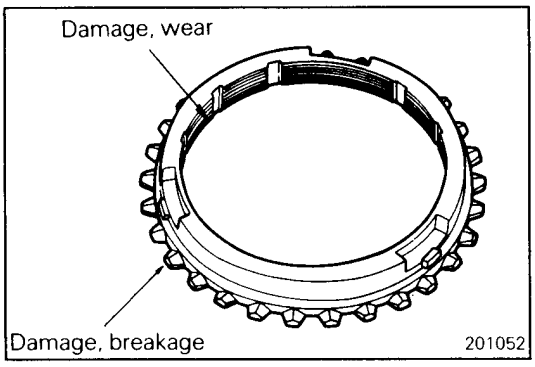
INTERMEDIATE GEAR

(1) Check the outer surface of the intermediate gear where the needle bearing is mounted for damage, abnormal wear and seizure [portion Ⓐ].
(2) Check the splines for damage and wear.



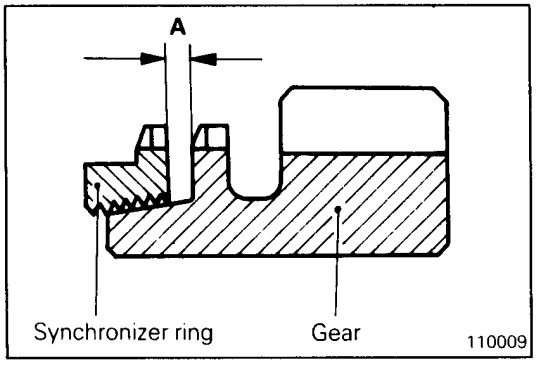
NEEDLE BEARING

(1) Combine the needle bearing with the shaft or bearing sleeve and gear and check that it rotates smoothly without abnormal noise or play.
(2) Check the needle bearing cage for deformation.

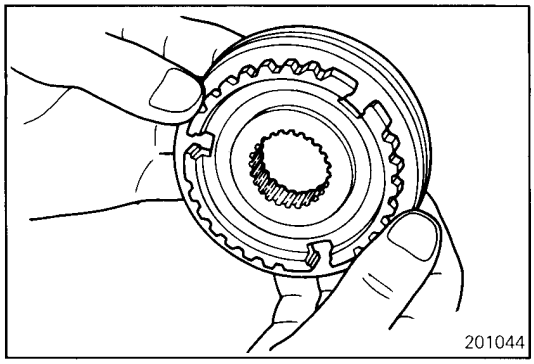


SYNCHRONIZER RING

(1) Check the clutch gear teeth for damage and breakage.
(2) Check the internal surface for damage, wear and broken threads.



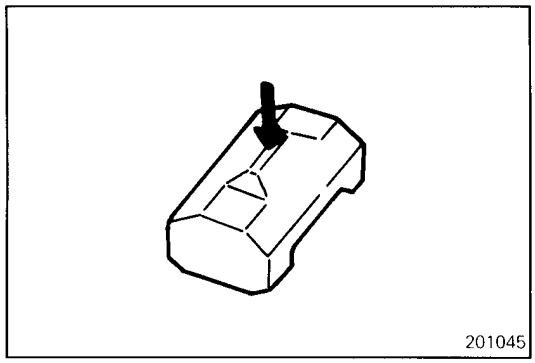
(3) Force the synchronizer ring toward the clutch gear and check clearance "A". Replace if it is out of specification.
Limit: 0.5 mm (0.02 in.)



SYNCHRONIZER SLEEVE AND HUB

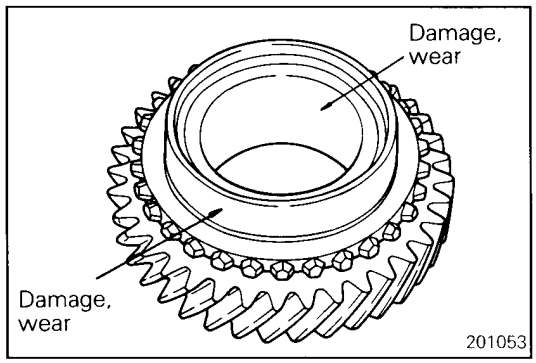
(1) Combine the synchronizer sleeve and hub and check that they slide smoothly.
(2) Check that the sleeve is free from damage at its inside front and rear ends.
(3) Check for wear of the hub end surfaces (in contact with each speed gear).

Caution
- **When replacing, replace the synchronizer hub and sleeve as a set.**



SYNCHRONIZER KEY AND SPRING

(1) Check for wear of the synchronizer key center protrusion.
(2) Check the spring for weakness, deformation and breakage.



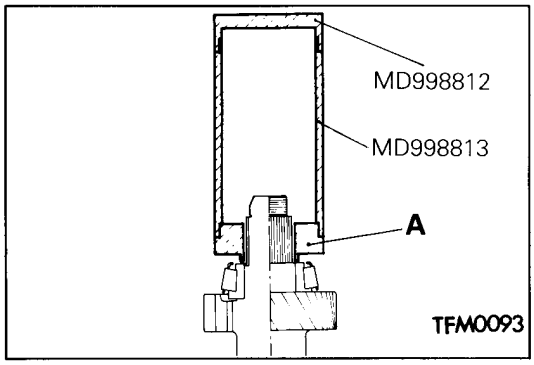
SPEED GEARS

(1) Check the bevel gear and clutch gear teeth for damage and wear.
(2) Check the synchronizer cone for rough surface, damage and wear.
(3) Check the gear bore and front and rear ends for damage and wear.

SERVICE POINTS OF REASSEMBLY

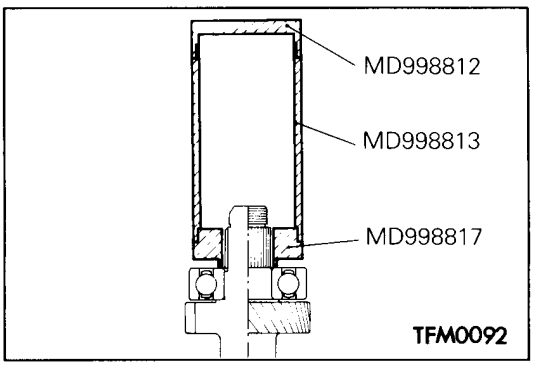
[A] INSTALLATION OF TAPER ROLLER BEARING

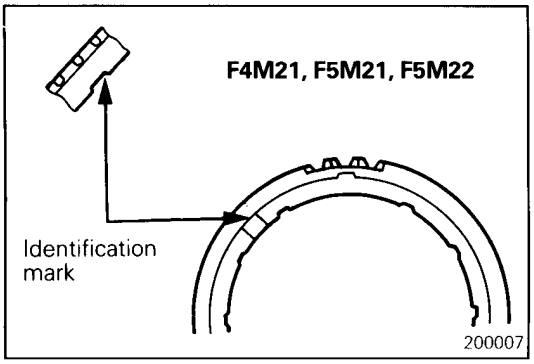
Caution
- **When installing the bearing, push the inner race only.**

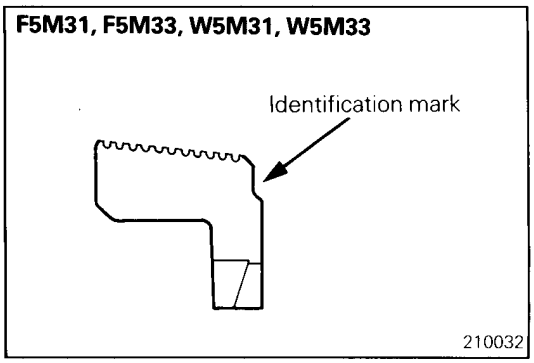


	F5M22, F5M31	F5M33, W5M31, W5M33
A	MD998817	MD998818

[B] INSTALLATION OF BALL BEARING

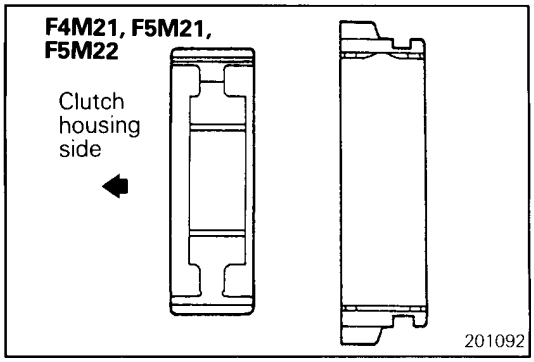






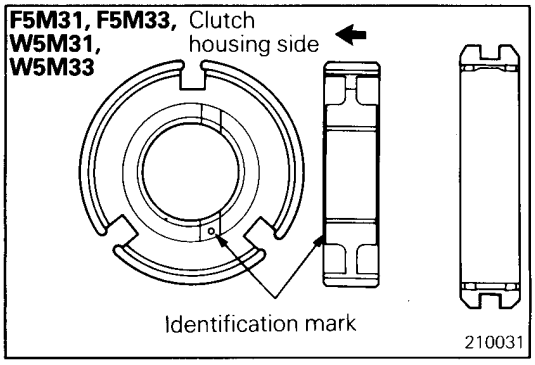
C INSTALLATION OF SYNCHRONIZER RINGS FOR 1ST SPEED GEAR, 2ND SPEED GEAR

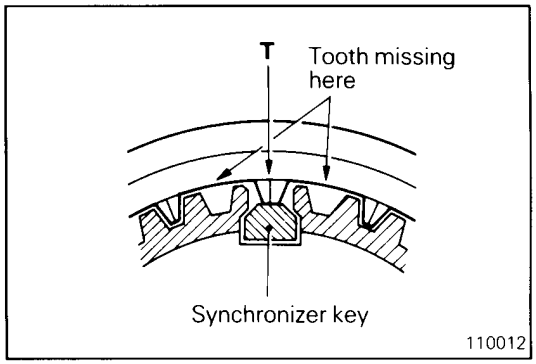
(1) The 1st speed gear and 2nd speed gear of synchronizer rings have an identification mark.



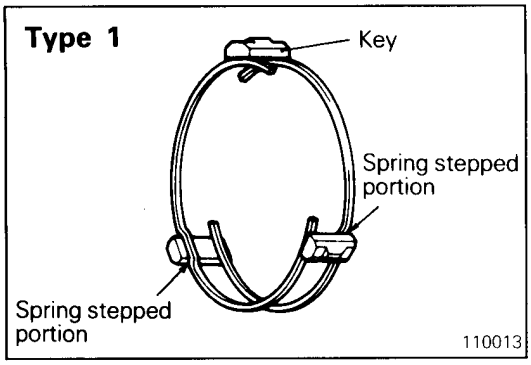
D INSTALLATION OF 1ST-2ND SPEED SYNCHRONIZER HUB / SYNCHRONIZER KEY / 1ST-2ND SYNCHRONIZER SLEEVE

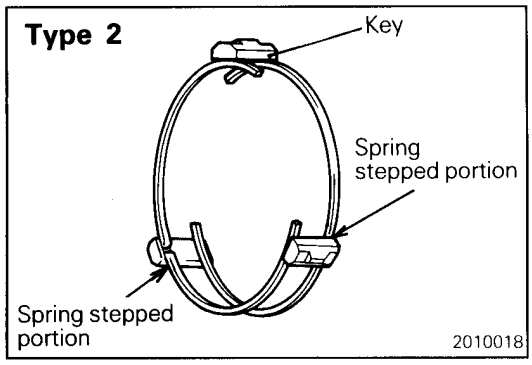
(1) Combine the 1st-2nd speed synchronizer hub and sleeve as illustrated.

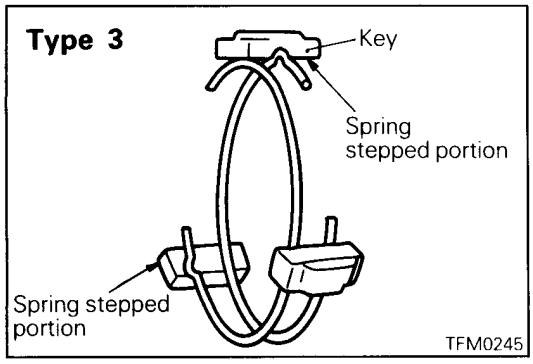




(2) The synchronizer sleeve has tooth missing at six portions. Assemble the hub to the sleeve in such a way that the center tooth "T" between two missing teeth will touch the synchronizer key.

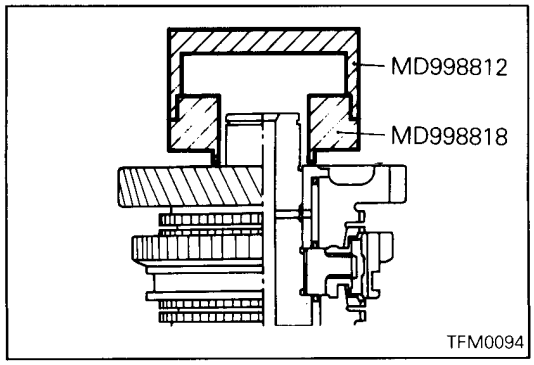




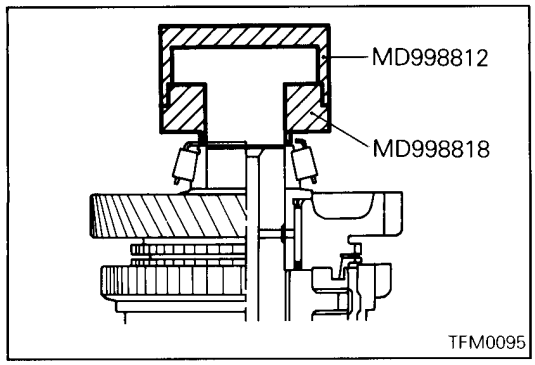


E INSTALLATION OF SYNCHRONIZER SPRING

(1) Stagger the two synchronizer springs and place them so that the spring steps are on different synchronizer keys.
(2) Do not mix types 1, 2 and 3 springs with one another.



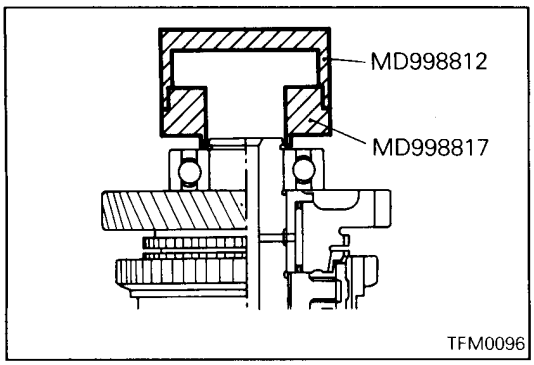
F INSTALLATION OF BEARING SLEEVE



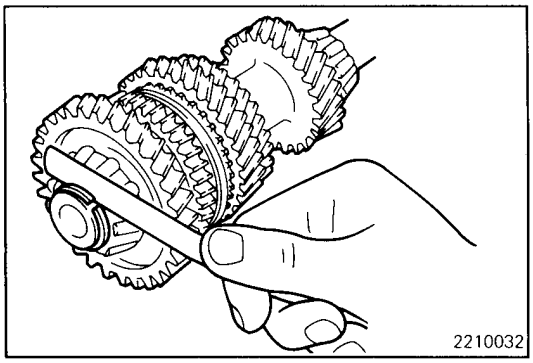
G INSTALLATION OF TAPER ROLLER BEARING

Caution

- **When installing the bearing, push the inner race only.**



H INSTALLATION OF BALL BEARING



I INSTALLATION OF SNAP RING

(1) Select and install the snap ring that gives standard intermediate gear bearing end play.

Standard value:

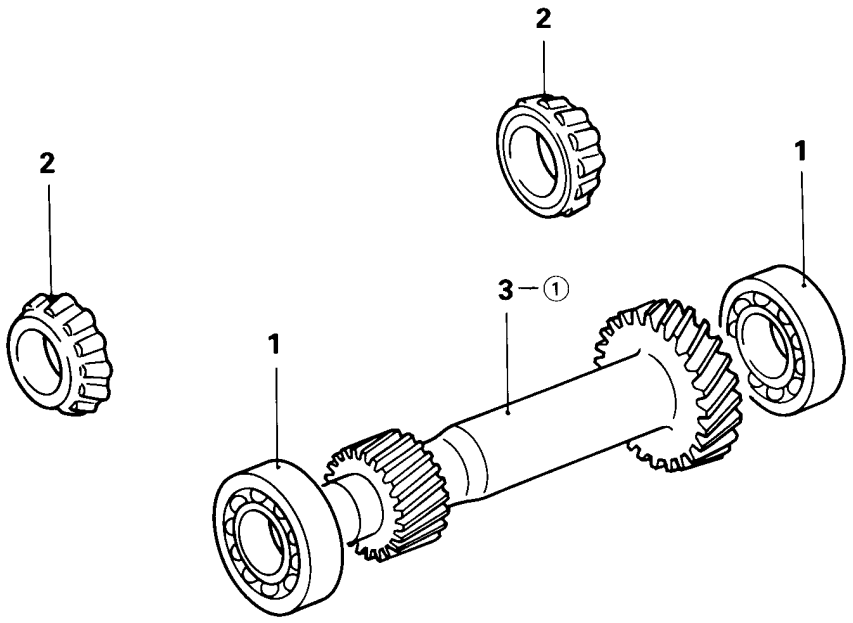
Intermediate gear bearing end play:

0.01 – 0.11 mm (0.0004 – 0.0043 in.) (F5M31, W5M31)

0.01 – 0.14 mm (0.0004 – 0.0055 in.) (F4M21, F5M21, F5M22, F5M33, W5M33)

7. OUTPUT SHAFT

DISASSEMBLY AND REASSEMBLY

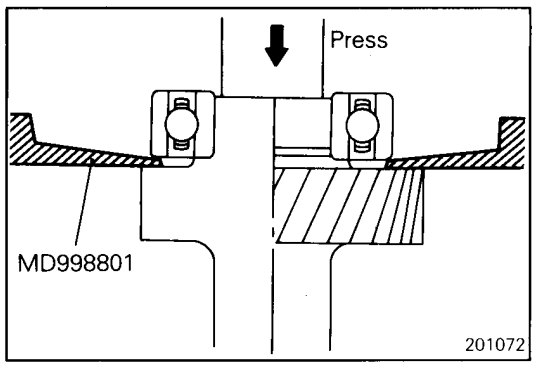


Disassembly steps

Ⓐ Ⓑ 1. Ball bearing (Up to JUN. 1987 – F4M21, F5M21)
Ⓑ Ⓐ 2. Taper roller bearing (F5M22, F5M31, F5M33, W5M31) (From JUL. 1987 – F4M21, F5M21)
3. Output shaft

NOTE
①: Refer to "Details of Change" table.

201071

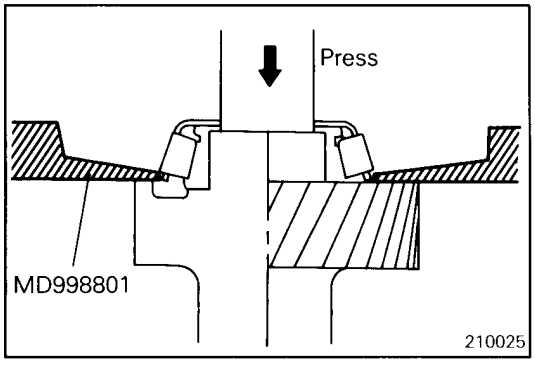


SERVICE POINTS OF DISASSEMBLY

Ⓐ REMOVAL OF BALL BEARINGS

Caution

- **Do not reuse the bearings removed from the shaft.**



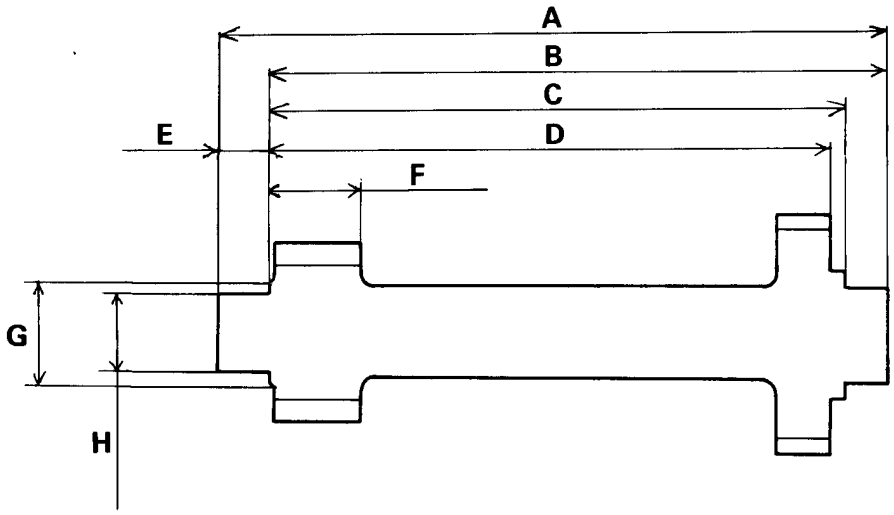
Ⓑ REMOVAL OF TAPER ROLLER BEARINGS

Caution

- **Do not reuse the bearings removed from the shaft.**
- **Replace the inner and outer races of the taper roller bearing as a set.**

Details of Change

Output shaft

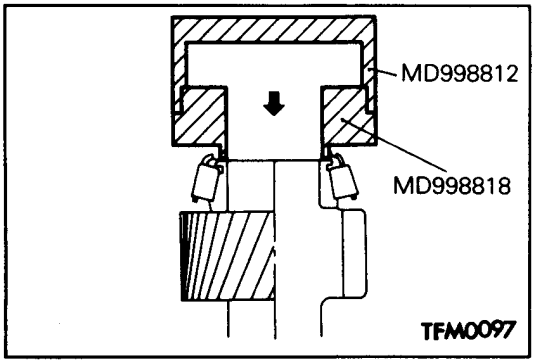


①

2010054

mm (in.)

	(New)	(Old)
A	214.7 (8.453)	216.5 (8.524)
B	199.2 (7.843)	199.5 (7.854)
C	183.7 (7.232)	184.5 (7.264)
D	182.2 (7.173)	181.5 (7.146)
E	15.5 (0.610)	17 (0.669)
F	30 (1.181)	29.1 (1.146)
G	40 (1.575)	33 (1.299)
H	30 (1.181)	25 (0.984)

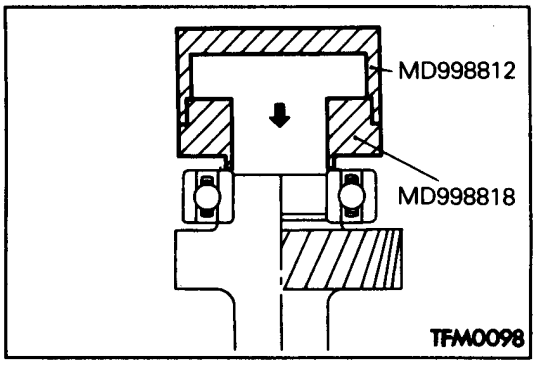


SERVICE POINTS OF REASSEMBLY

A INSTALLATION OF TAPER ROLLER BEARINGS

Caution

- **When installing the bearing, push the inner race only.**

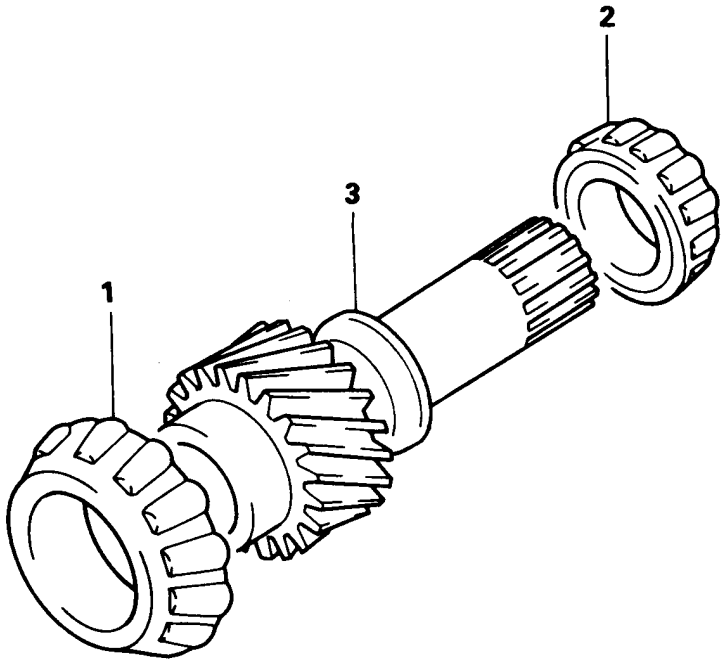


B INSTALLATION OF BALL BEARINGS

8. FRONT OUTPUT SHAFT

W5M31

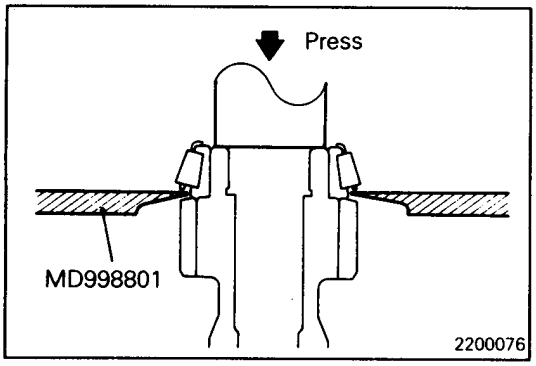
DISASSEMBLY AND REASSEMBLY

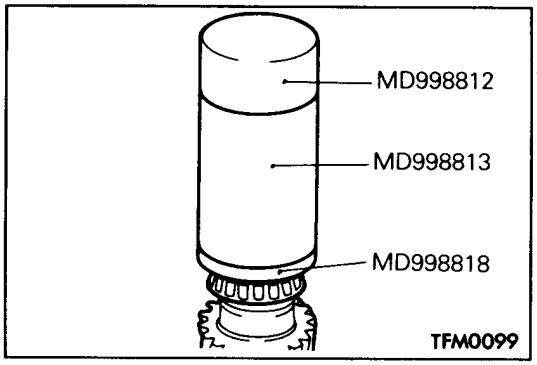


Disassembly steps

Ⓐ B 1. Taper roller bearing
Ⓐ A 2. Taper roller bearing
3. Front output shaft

2200075





SERVICE POINTS OF DISASSEMBLY

Ⓐ REMOVAL OF TAPER ROLLER BEARINGS

(1) Remove the taper roller bearings using the special tool.

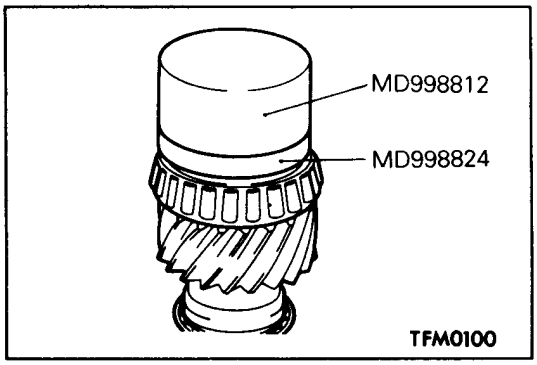
NOTE
(1) Do not reuse the bearing removed from the shaft.
(2) Replace the inner and outer races of the taper roller bearing as a set.

SERVICE POINTS OF REASSEMBLY

A INSTALLATION OF TAPER ROLLER BEARINGS

(1) Install the taper roller bearing using the special tool.

NOTE
Apply the special tool to the inner race only when installing the bearing.



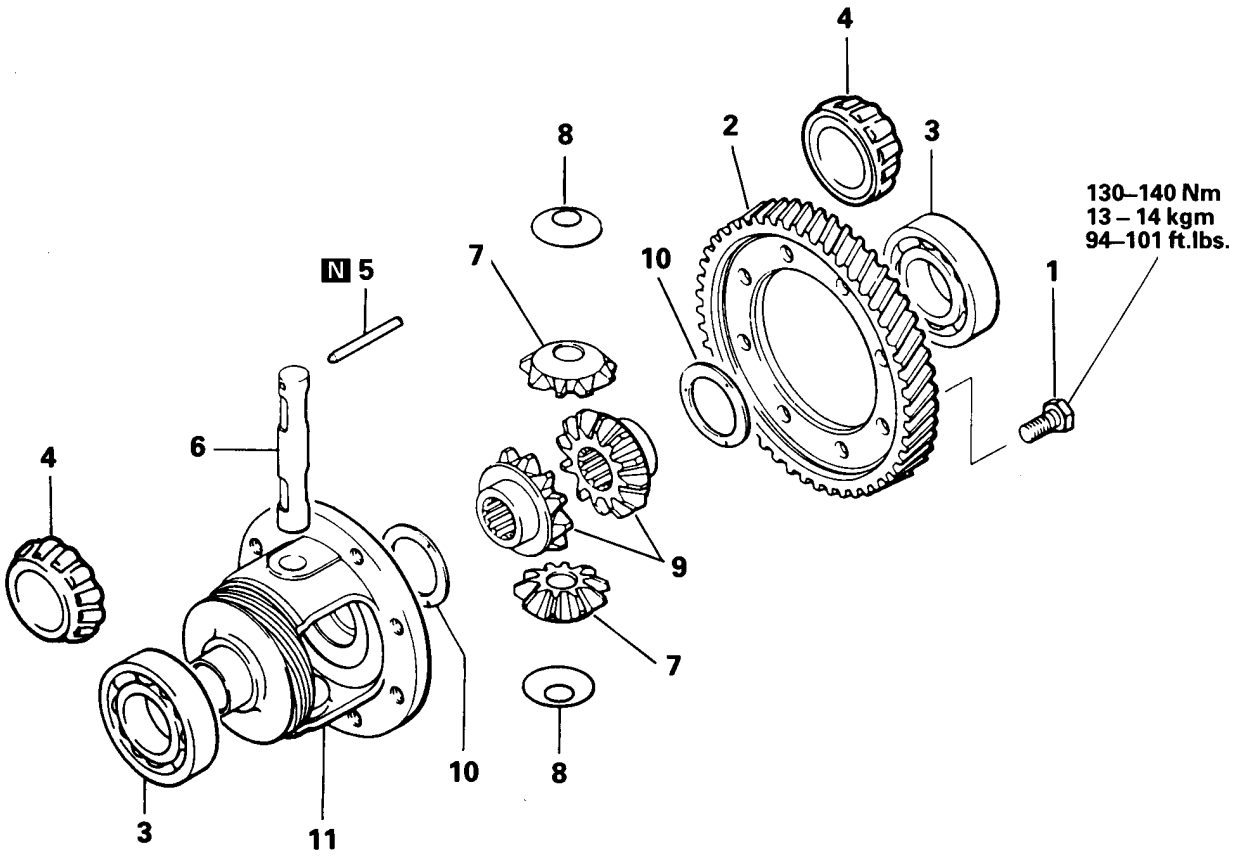
B INSTALLATION OF TAPER ROLLER BEARINGS

(1) Install the taper roller bearing using the special tool.

NOTE
Apply the special tool to the inner race only when installing the bearing.

9. DIFFERENTIAL

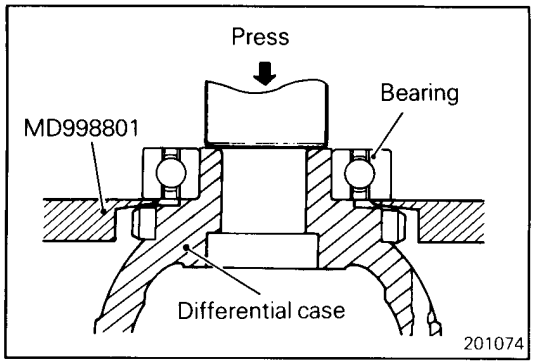
DISASSEMBLY AND REASSEMBLY



Disassembly steps

- E 1. Bolt
- 2. Differential drive gear
- Ⓐ D 3. Ball bearing (F4M21, F5M21, W5M31, W5M33)
- Ⓑ C 4. Taper roller bearing (F5M22, F5M31, F5M33)
- Ⓒ B 5. Lock pin
- A 6. Pinion shaft
- A 7. Pinion
- A 8. Washer
- A 9. Side gear
- A 10. Spacer
- 11. Differential case

160119

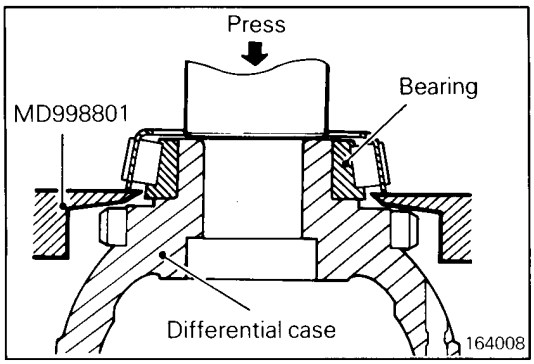


SERVICE POINTS OF DISASSEMBLY

Ⓐ REMOVAL OF BALL BEARINGS

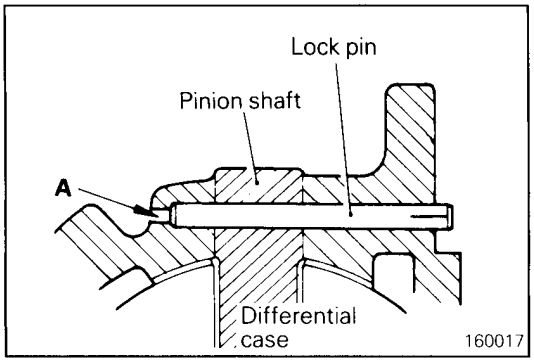
Caution

- **Do not reuse the bearing removed from the shaft.**



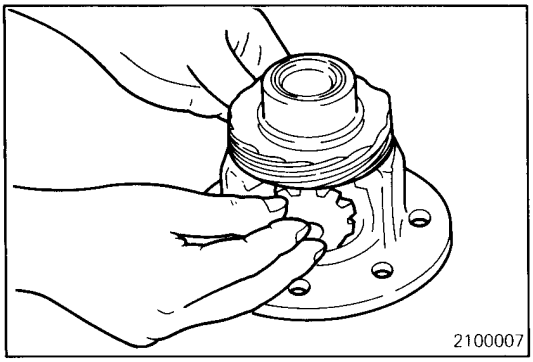
Ⓑ REMOVAL OF TAPER ROLLER BEARING

Caution
- **Do not reuse the bearing removed from the shaft.**
- **Replace the inner and outer races of the taper roller bearing as a set.**



Ⓒ REMOVAL OF LOCK PIN

(1) Drive out the lock pin from the hole A using a punch.

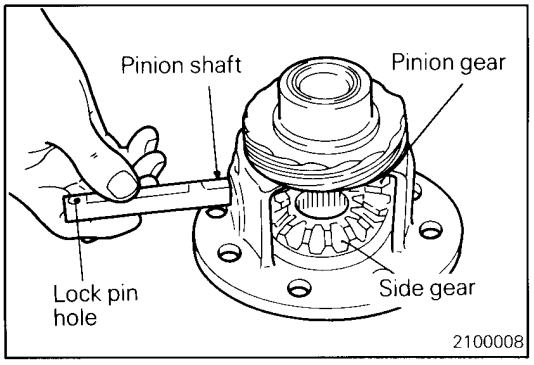


SERVICE POINTS OF REASSEMBLY

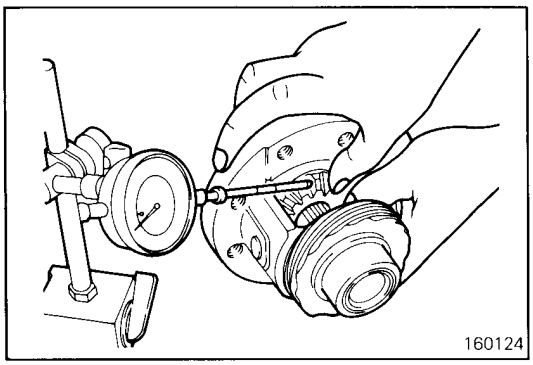
Ⓐ INSTALLATION OF SPACER / SIDE GEAR / WASHER / PINION / PINION SHAFT

(1) Install the spacer on the back of the side gear and then install the gear in the differential case.

Caution
- **When installing a new side gear, use a spacer of medium thickness [0.93 – 1.00 mm (0.366 – 0.394 in.)].**



(2) Set the washer on the back of each pinion and insert the two pinions to specified position while engaging them with the side gears and turning them.
(3) Insert the pinion shaft.

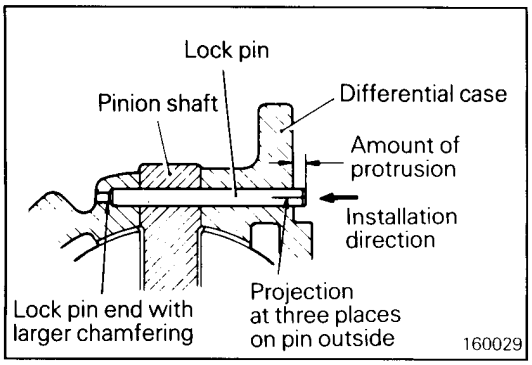


(4) Measure the backlash between the side gears and pinions.

Standard value:
0.025 – 0.150 mm (0.001 – 0.006 in.)

(5) If the backlash is out of specification, disassemble again and using correct spacer, reassemble and adjust.

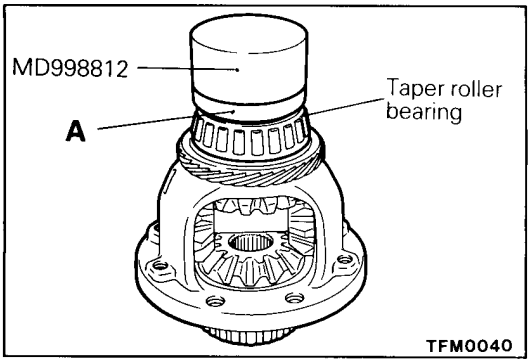
Caution
- **Adjust for same backlash of both side gears.**



B INSTALLATION OF LOCK PIN

(1) Align the pinion shaft lock pin hole with the case lock pin hole and insert the lock pin.

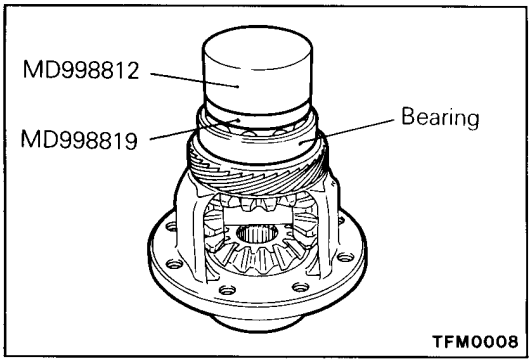
Caution
- **Do not reuse the lock pin.**
- **The lock pin must not protrude more than 3 mm (0.118 in.). (F4M21, F5M21)**
- **The lock pin head must be sunk from the flange surface of the differential case. (F5M22, F5M31, F5M33, W5M31, W5M33)**



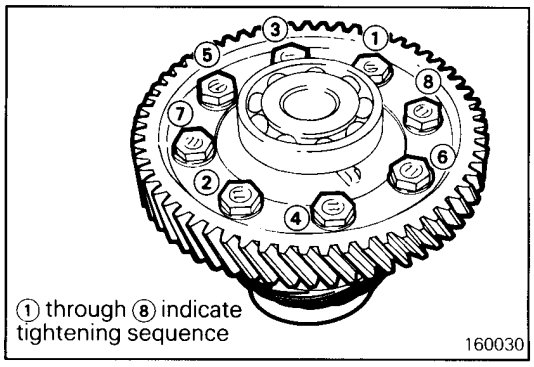
C INSTALLATION OF TAPER ROLLER BEARINGS

Caution
- **When press-fitting the bearings, push the inner race only.**

	F5M22	F5M31, F5M33
A	MD998819	MD998822



D INSTALLATION OF BALL BEARINGS



E INSTALLATION OF BOLTS

(1) Apply specified sealant to the entire threads of the bolts and quickly tighten in the order shown to specified torque.

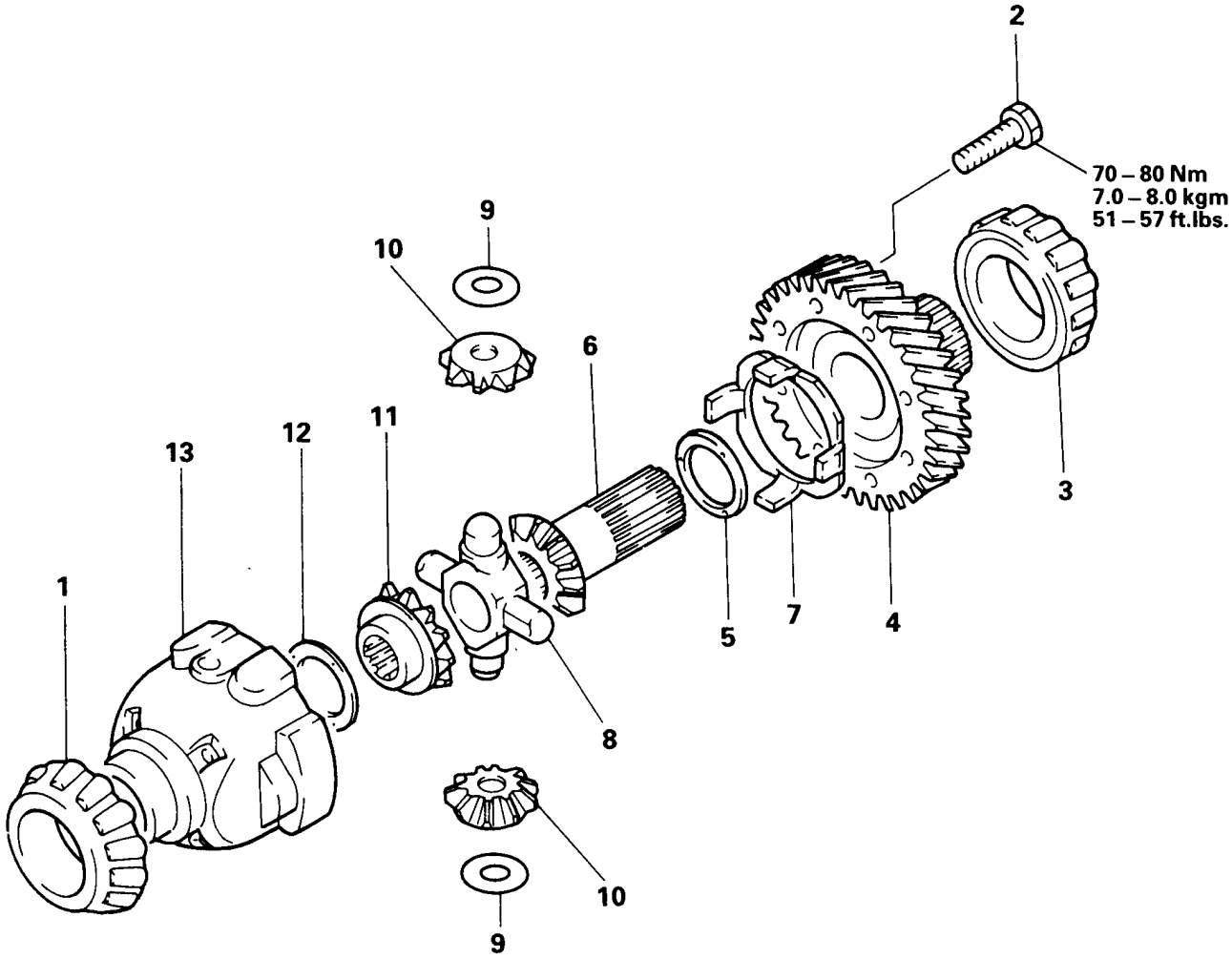
Specified sealant: 3M Stud Locking No. 4170 or equivalent

Caution
- **If a bolt is reused, remove traces of old sealant completely from the threads.**

10. CENTER DIFFERENTIAL <FOUR WHEEL DRIVE MODEL ONLY>

W5M31

DISASSEMBLY AND REASSEMBLY

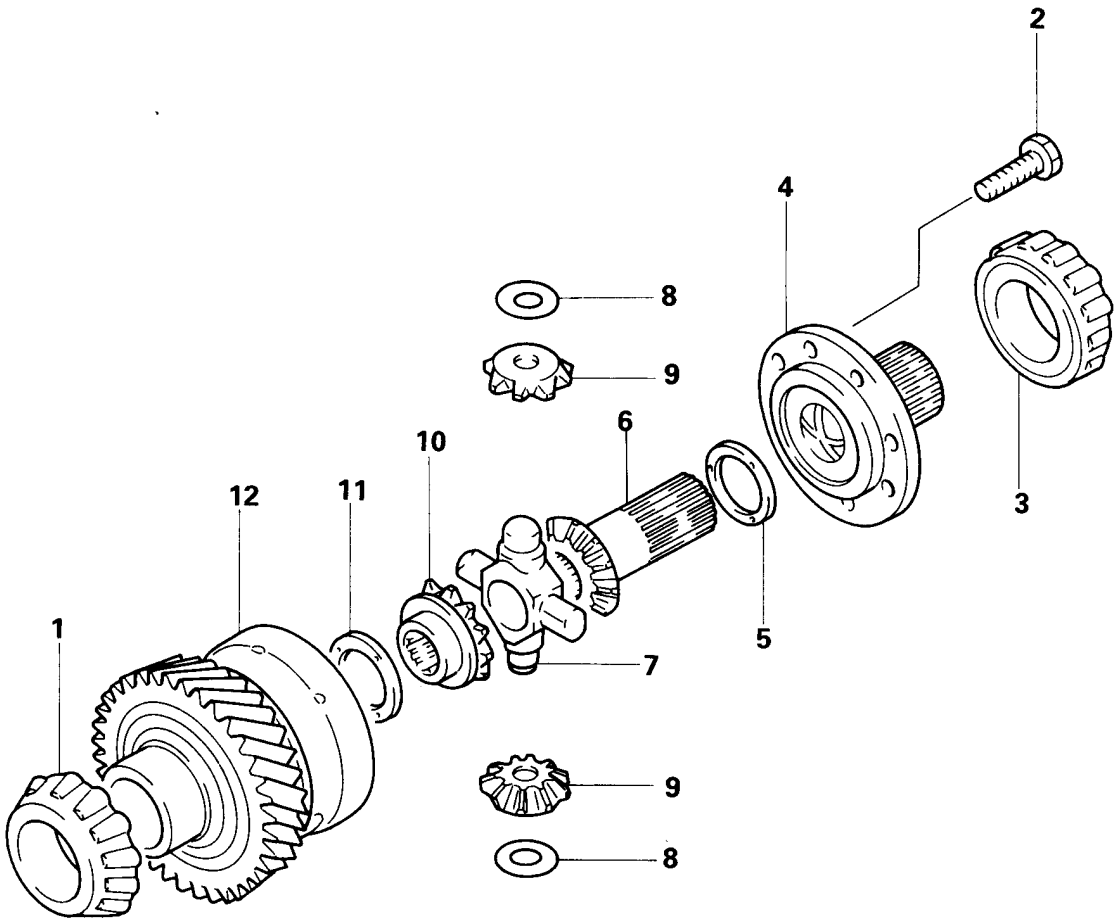


Disassembly steps

- Ⓐ D 1. Taper roller bearing
- C 2. Bolt
- Ⓐ B 3. Taper roller bearing
- 4. Output gear
- A 5. Spacer
- 6. Side gear
- 7. Pinion shaft retainer (with differential lock)
- 8. Pinion shaft
- 9. Washer
- 10. Pinion
- 11. Side gear
- A 12. Spacer
- 13. Center differential case

2200083

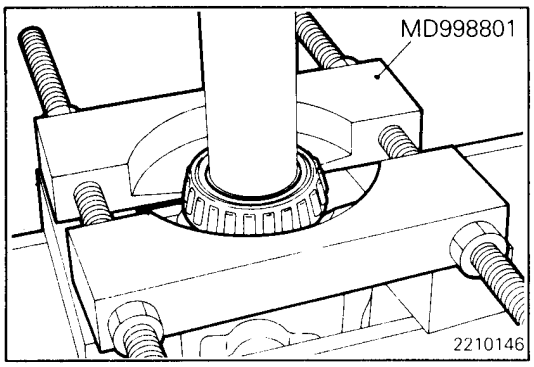
W5M33



Disassembly steps

- Ⓐ [D] 1. Taper roller bearing
- [C] 2. Bolt
- Ⓐ [B] 3. Taper roller bearing
- 4. Output flange
- [A] 5. Spacer
- 6. Side gear
- 7. Pinion shaft
- 8. Washer
- 9. Pinion
- 10. Side gear
- [A] 11. Spacer
- 12. Center differential case

2250015

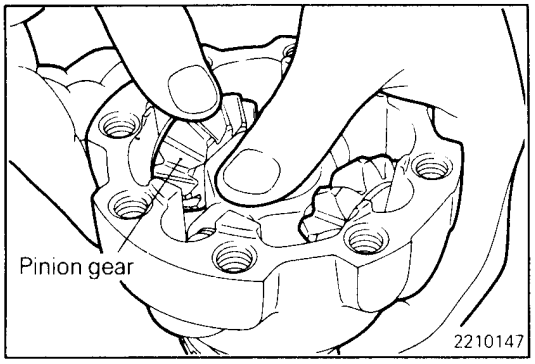


SERVICE POINTS OF DISASSEMBLY

Ⓐ REMOVAL OF TAPER ROLLER BEARINGS

(1) Remove the taper roller bearings using the special tool.

NOTE
(1) Do not reuse the bearing removed from the shaft.
(2) Replace the inner and outer races of the taper roller bearing as a set.

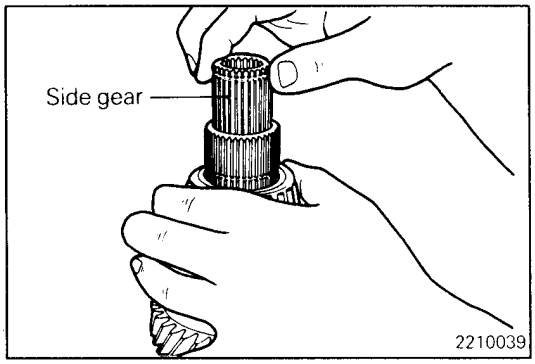


SERVICE POINTS OF REASSEMBLY

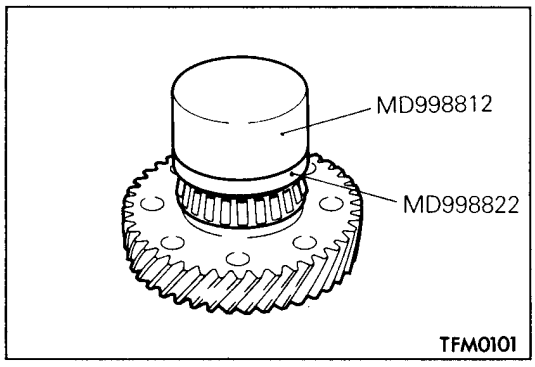
Ⓐ INSTALLATION OF SPACERS

(1) Install the spacer, side gear, pinion gear, washer and pinion shaft to the center differential case.
(2) Holding down the pinion shaft, select the spacer of maximum thickness that allows the pinion gear to turn lightly and install it to the shaft.
(3) Install the side gear, spacer, pinion shaft retainer (KM220 only) and output gear and tighten the bolt to specified torque.
(4) Select the spacer of maximum thickness that allows the side gear to turn lightly and install it.
(5) Check that both side gears turn lightly.

Standard value:
Center differential side gear end play:
0.05 – 0.25 mm (0.0020 – 0.0010 in.)



Ⓑ INSTALLATION OF TAPER ROLLER BEARINGS

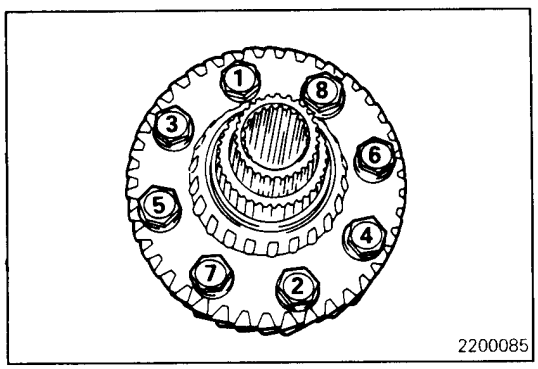


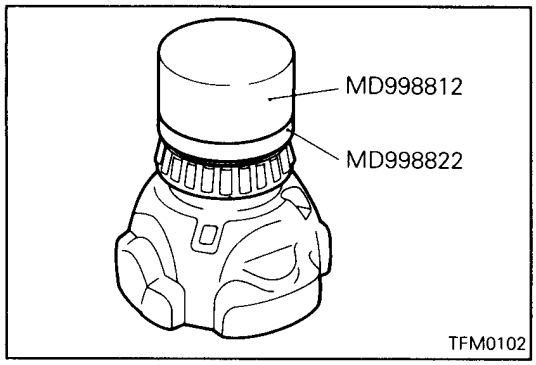
Ⓒ INSTALLATION OF BOLTS

(1) Apply specified sealant to the entire threads of the bolts and quickly tighten the bolts in the order shown to specified torque.

Specified sealant: 3M STUD Locking No. 4170 or equivalent

NOTE
If the bolts are reused, completely remove old sealant from the threads.



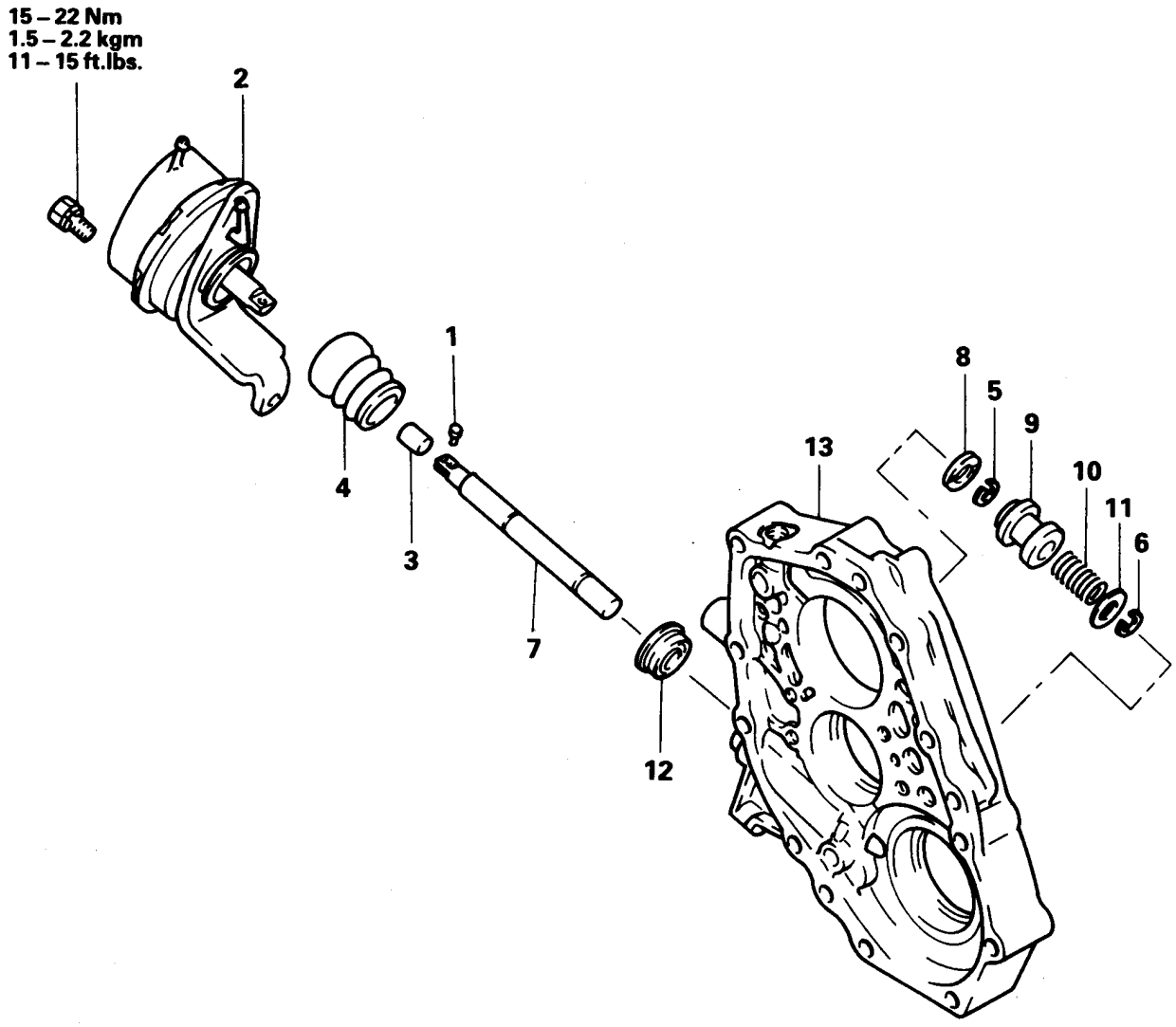


D INSTALLATION OF TAPER ROLLER BEARINGS

NOTE
Apply the special tool to the inner race only when installing the bearing.

11. TRANSMISSION CASE ADAPTER <FOUR WHEEL DRIVE MODEL WITH DIFFERENTIAL LOCK>

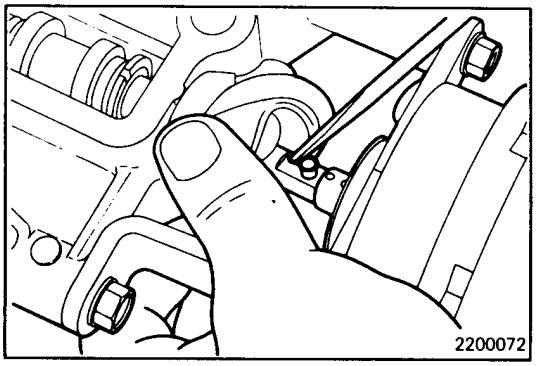
DISASSEMBLY AND REASSEMBLY



Disassembly steps

Ⓐ [B] 1. Pin
[B] 2. Actuator assembly
[B] 3. Collar
4. Boot
5. Snap ring
6. Snap ring
7. Differential lock shift rod
8. Seat
9. Differential lock shift lug
10. Spring
11. Washer
[A] 12. Oil seal
13. Transmission case adapter

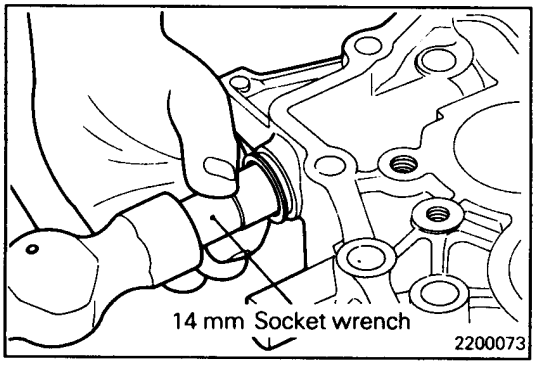
2200071



SERVICE POINTS OF DISASSEMBLY

Ⓐ REMOVAL OF PIN

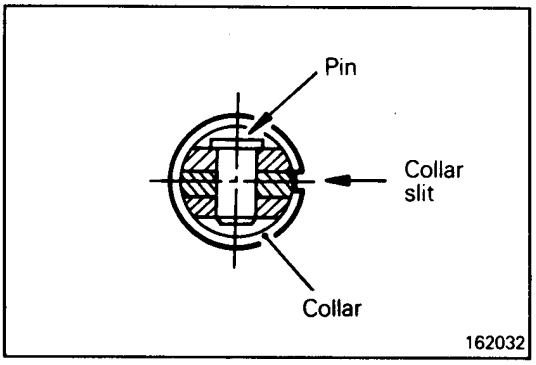
(1) Slide the collar toward the actuator and remove the pin.



SERVICE POINTS OF REASSEMBLY

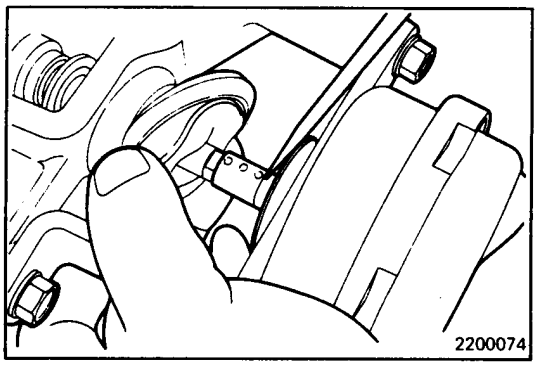
[A] INSTALLATION OF OIL SEAL

(1) Pack the lip of the oil seal with grease and install the seal using socket wrench (14 mm).

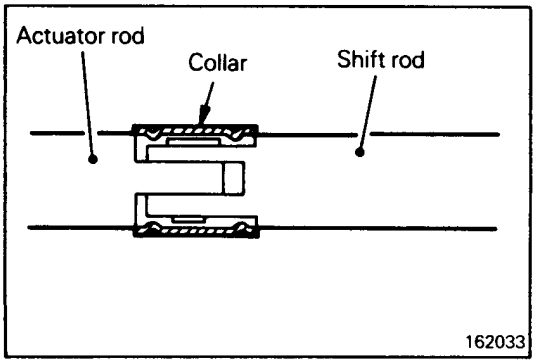


[B] INSTALLATION OF PIN / ACTUATOR ASSEMBLY / COLLAR

(1) Install the collar over the actuator rod.
(2) Connect the shift rod to the actuator rod and align the pin holes.
(3) Insert the pin with its head at the top.



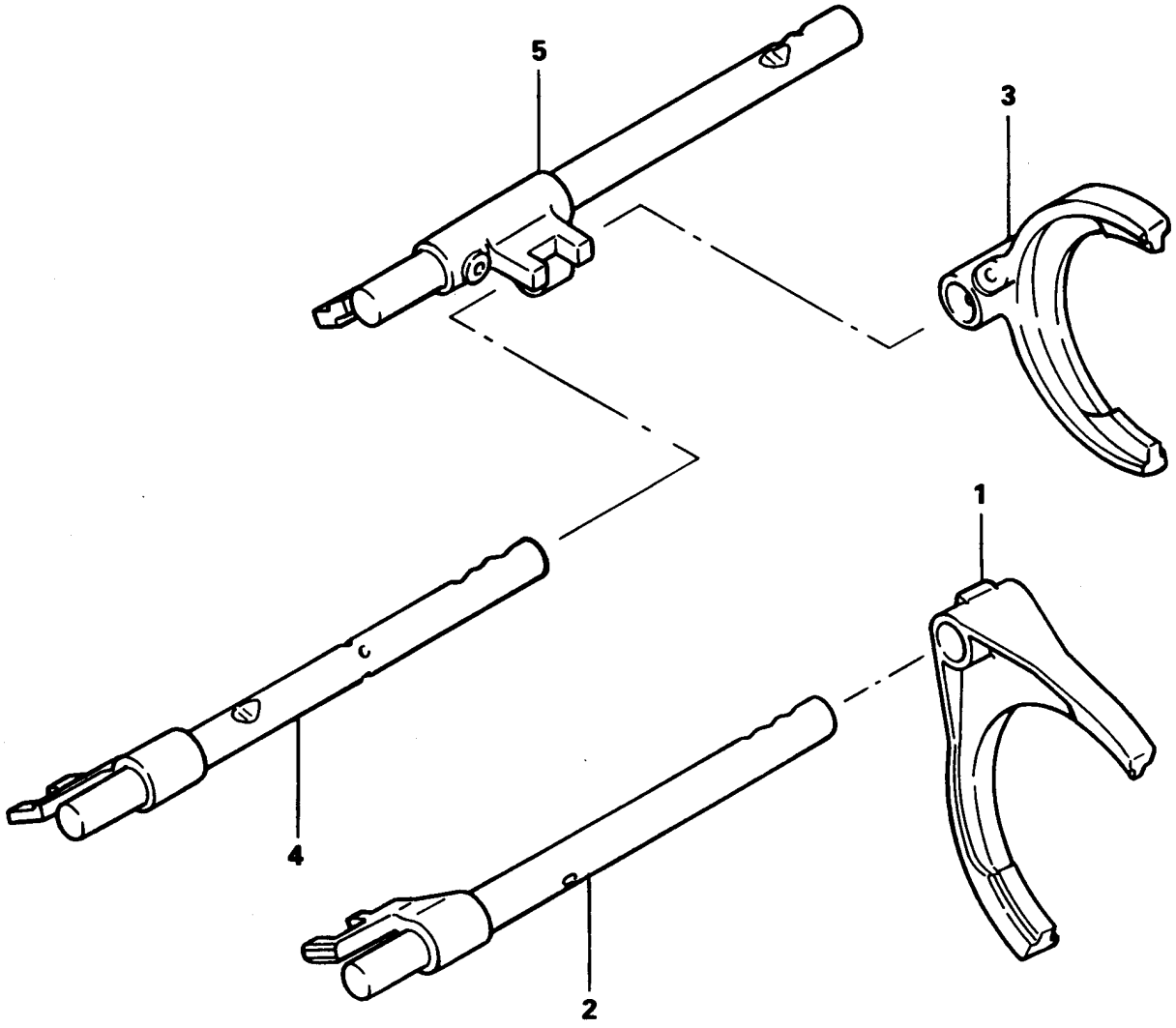
(4) Slide the collar to the illustrated position. Make sure that the collar slit is at right angle to the pin.



12. SHIFT FORK

F4M21

DISASSEMBLY AND REASSEMBLY

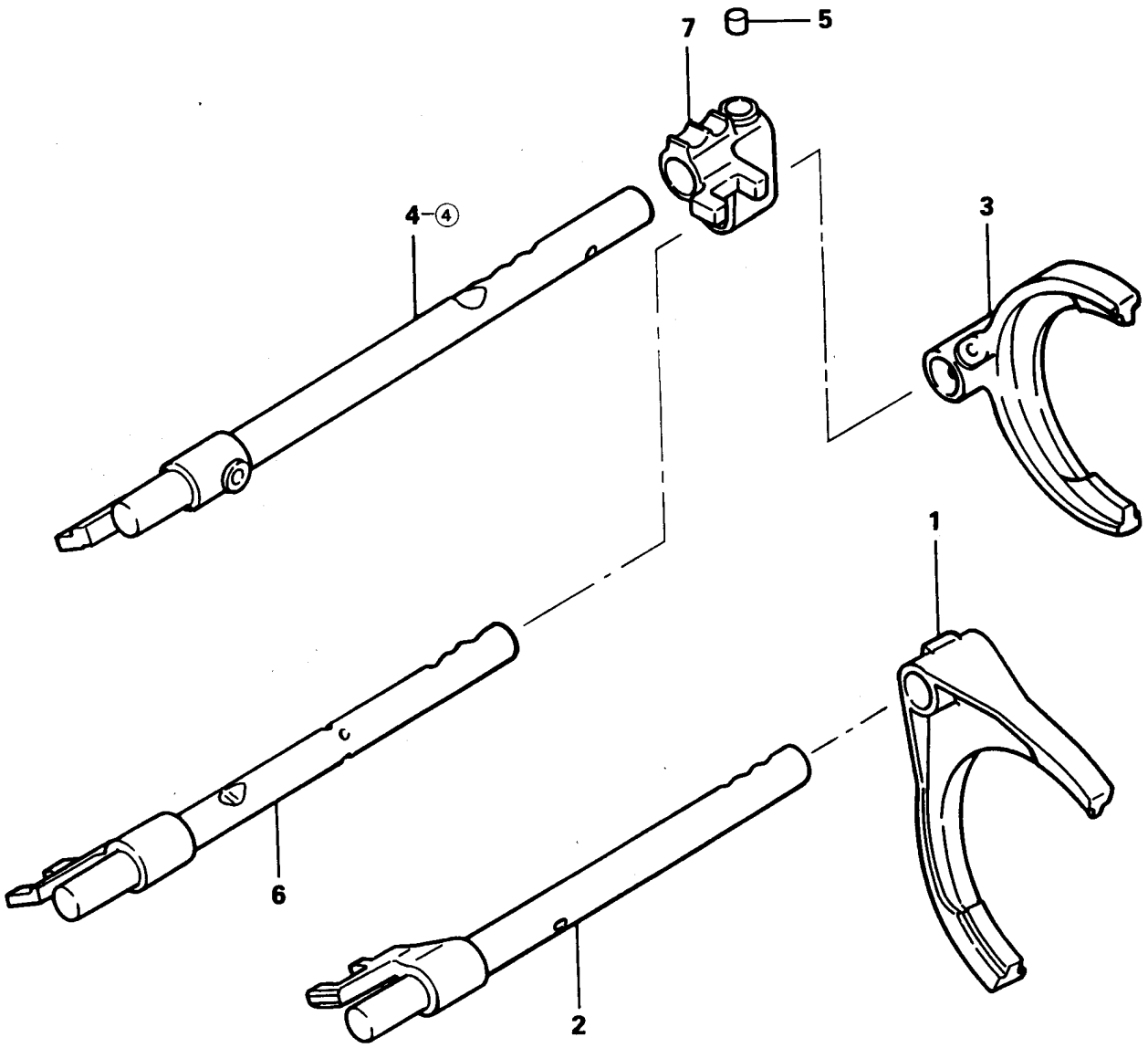


Disassembly steps

1. 1st-2nd speed shift fork
2. 1st-2nd speed shift rail
3. 3rd-4th speed shift fork
4. 3rd-4th speed shift rail
5. Reverse shift rail

200005

F5M21, F5M22

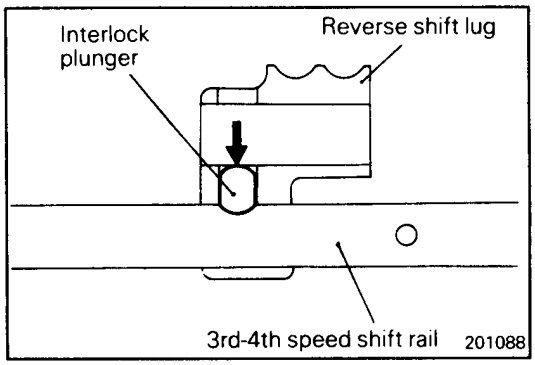


Disassembly steps

1. 1st-2nd speed shift fork
2. 1st-2nd speed shift rail
3. 3rd-4th speed shift fork
4. 5th-reverse speed shift rail
[A] 5. Interlock plunger
6. 3rd-4th speed shift rail
7. Reverse shift lug

NOTE
④: Refer to "Details of Change" table.

201073



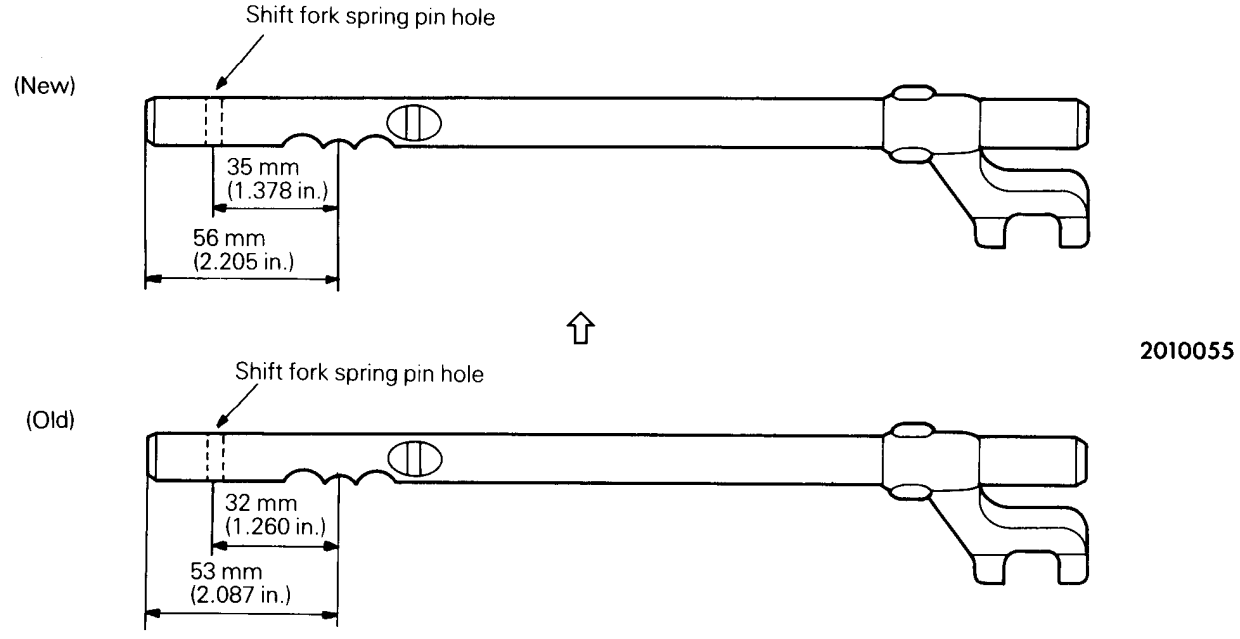
SERVICE POINTS OF REASSEMBLY

[A] INSTALLATION OF INTERLOCK PLUNGER

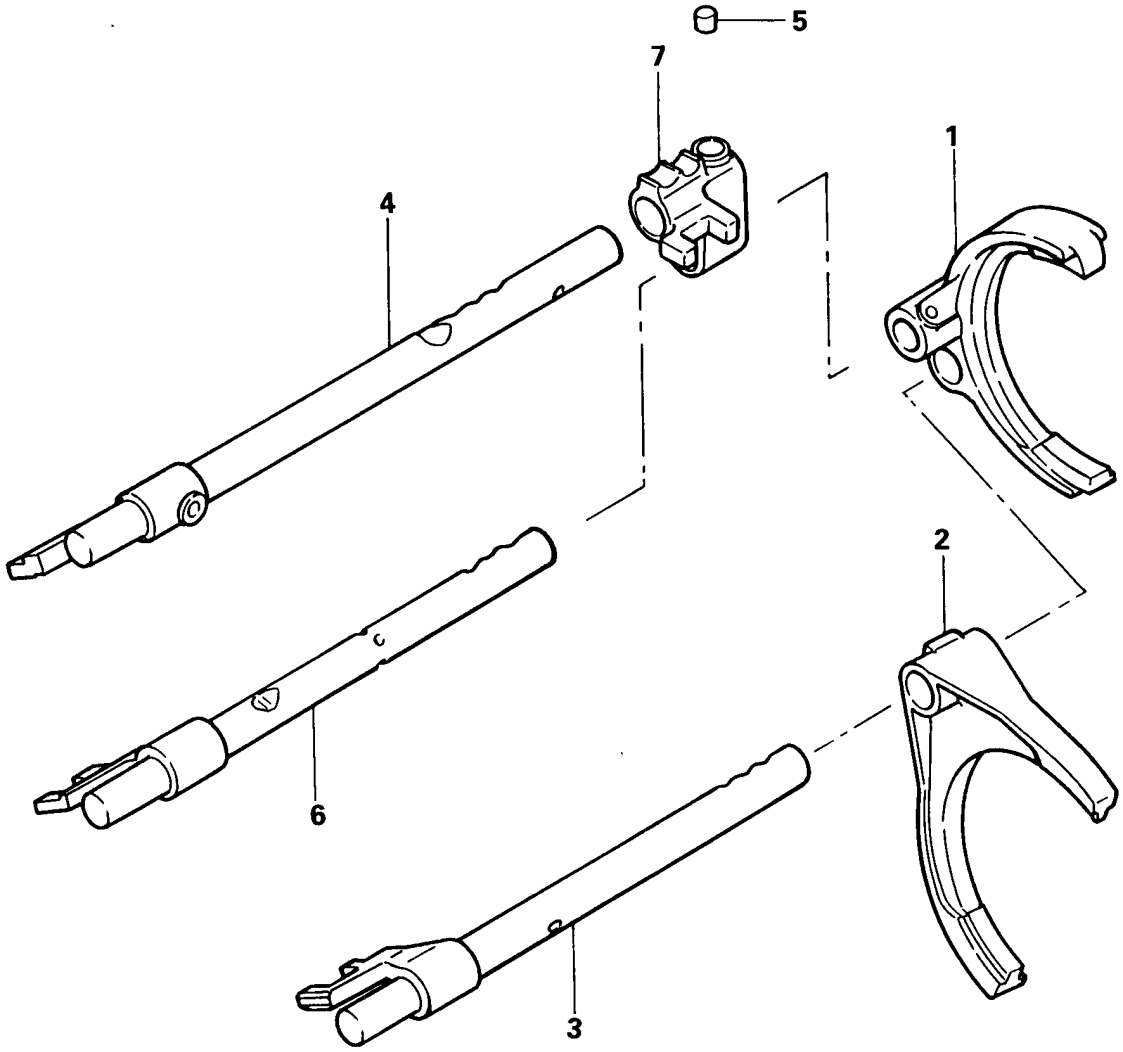
Details of Change

④

5th-reverse speed shift rail



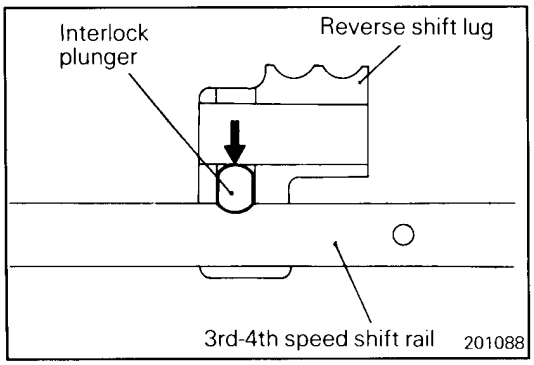
F5M31, F5M33, W5M31, W5M33



Disassembly steps

1. 3rd-4th speed shift fork
2. 1st-2nd speed shift fork
3. 3rd-4th speed shift rail
4. 5th-reverse speed shift rail
[A] 5. Interlock plunger
6. 3rd-4th speed shift rail
7. Reverse shift lug

210027

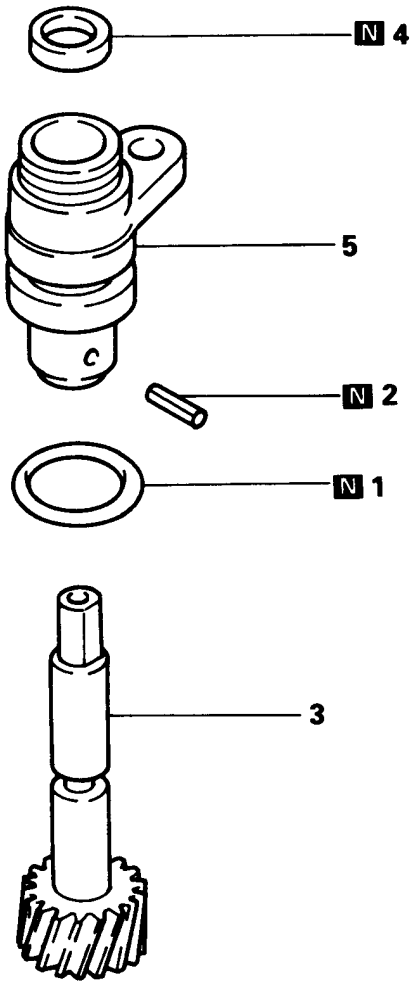


SERVICE POINTS OF REASSEMBLY

[A] INSTALLATION OF INTERLOCK PLUNGER

13. SPEEDOMETER DRIVEN GEAR

DISASSEMBLY AND REASSEMBLY



Disassembly steps

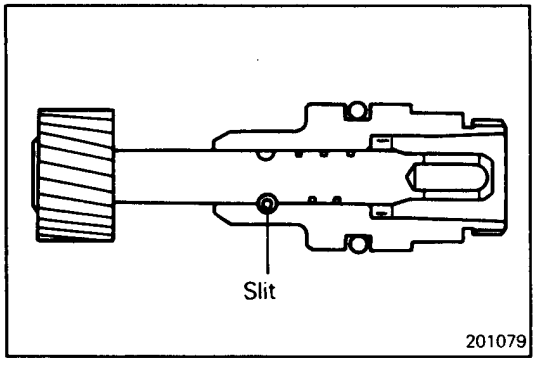
1. O-ring
2. [B] Spring pin
3. [A] Speedometer driven gear
4. Oil seal
5. Sleeve

201078

SERVICE POINTS OF REASSEMBLY

[A] INSTALLATION OF SPEEDOMETER DRIVEN GEAR

(1) Apply gear oil sparingly to the speedometer driven gear shaft and insert the shaft.

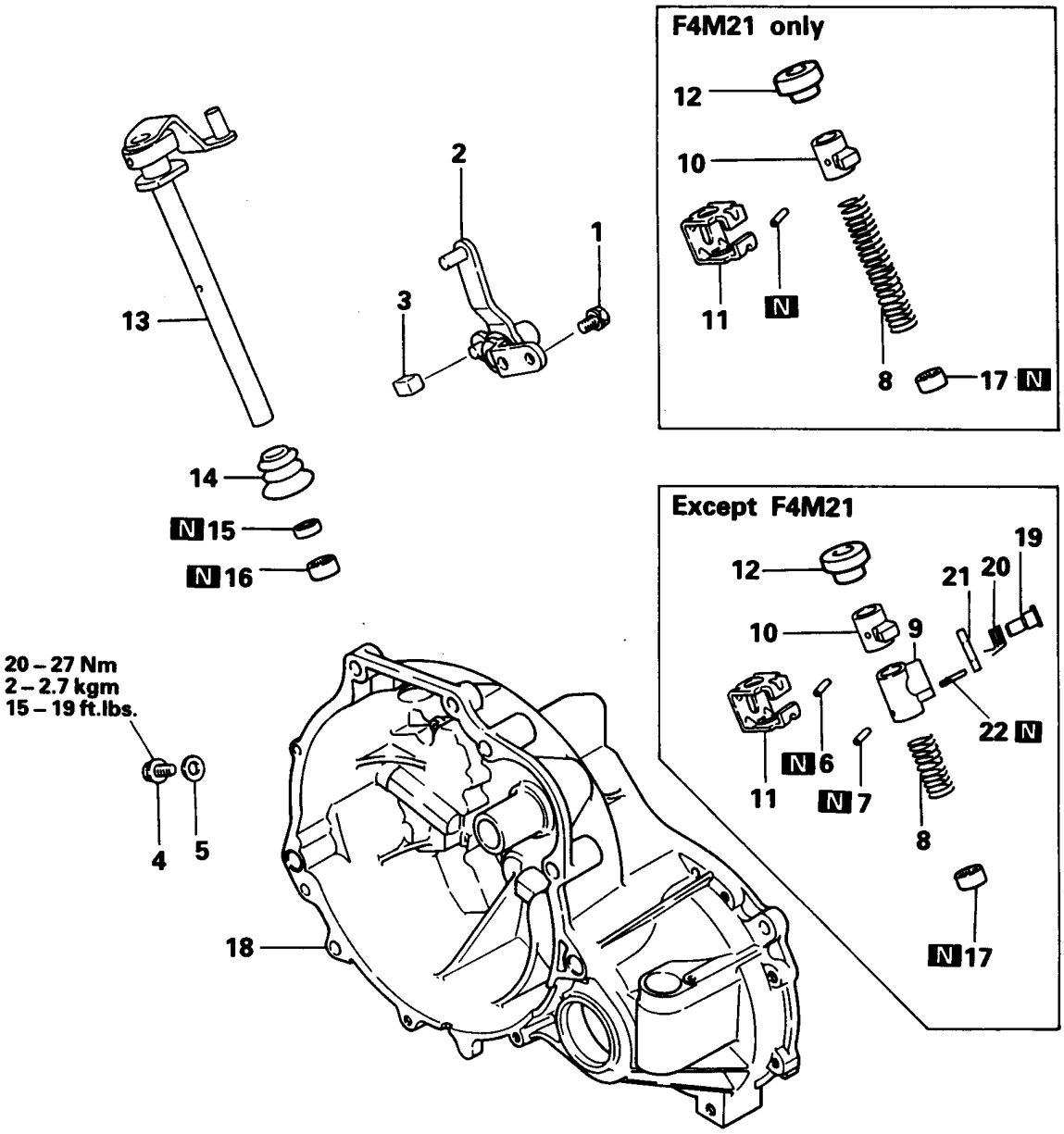


[B] INSTALLATION OF SPRING PIN

(1) Install the spring pin in such a way that its slit does not face the gear shaft.

14. CLUTCH HOUSING

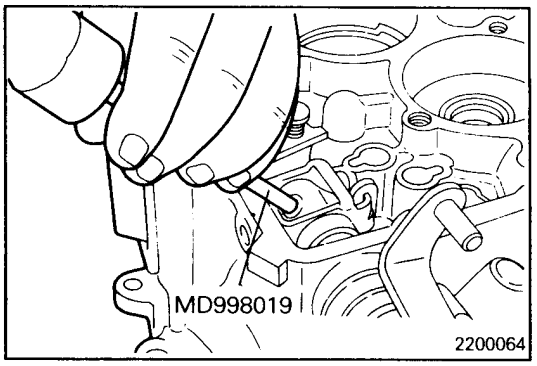
DISASSEMBLY AND REASSEMBLY



Disassembly steps

1. Bolt
2. Select lever assembly
3. Select lever shoe
4. Interlock plate bolt
5. Gasket
6. Lock pin (Ⓐ C, Ⓑ C)
7. Spring pin (Ⓑ C)
8. Neutral return spring
9. Stopper body
10. Control finger
11. Interlock plate
12. Neutral return spring assembly
13. Control shaft
14. Control shaft boot
15. Oil seal (B)
16. Needle bearing (Ⓒ A)
17. Needle bearing (Ⓒ A)
18. Clutch housing
19. Pin
20. Return spring
21. Stopper plate
22. Spring pin

2010011

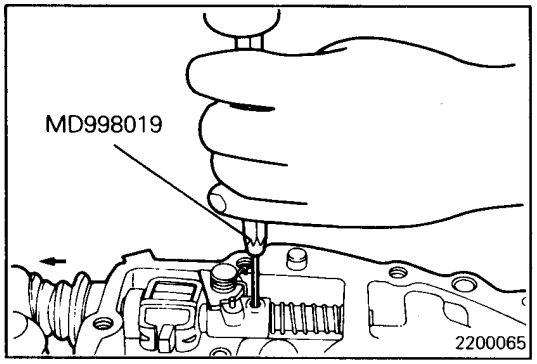


SERVICE POINTS OF DISASSEMBLY

Ⓐ REMOVAL OF LOCK PIN

Caution

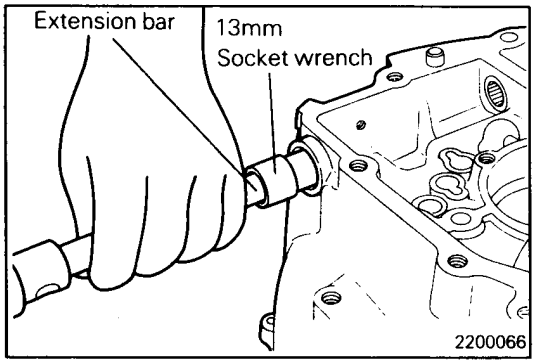
- **When removing the lock pin, turn the control lever to such position that the lock pin will not contact the clutch housing.**



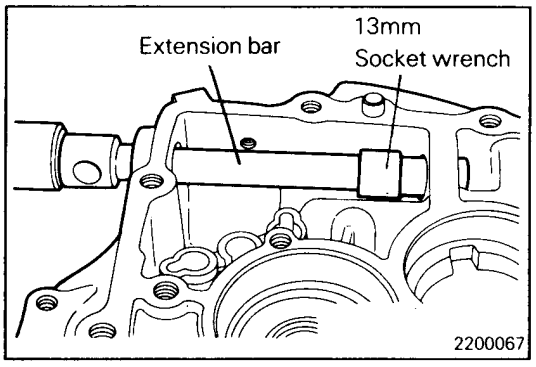
Ⓑ REMOVAL OF SPRING PIN

Caution

- **When removing the spring pin, pull the control shaft in the direction illustrated so that the spring pin will not contact the clutch housing.**



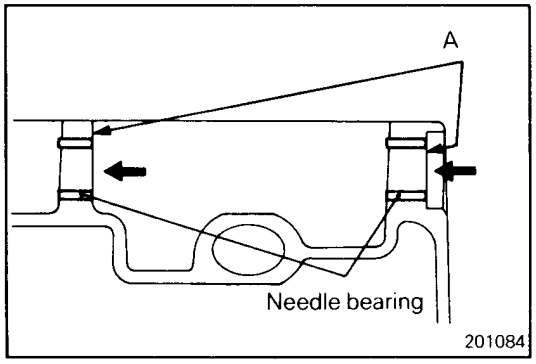
Ⓒ REMOVAL OF NEEDLE BEARING

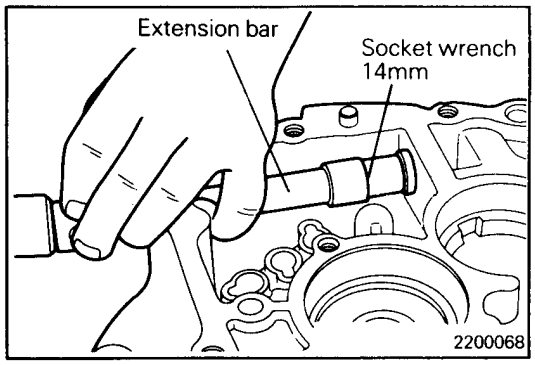


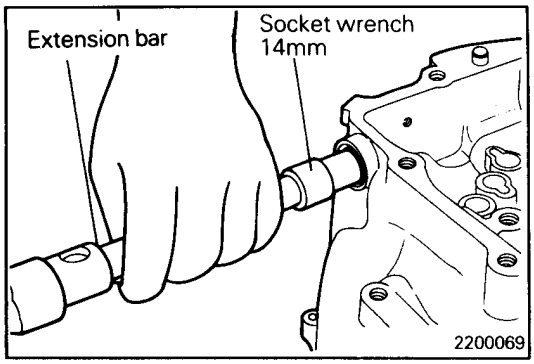
SERVICE POINTS OF REASSEMBLY

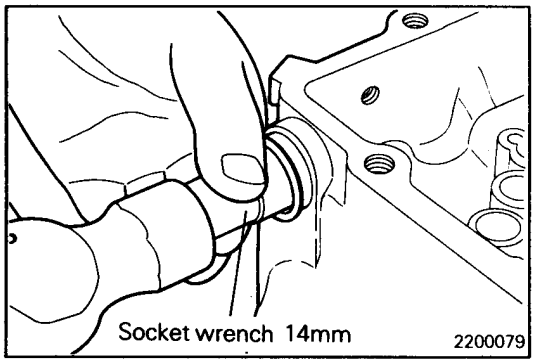
Ⓐ INSTALLATION OF NEEDLE BEARINGS

(1) Install the needle bearing flush with the surface A of the clutch housing using a socket wrench.
(2) Install with the part type stamped side facing the surface A.

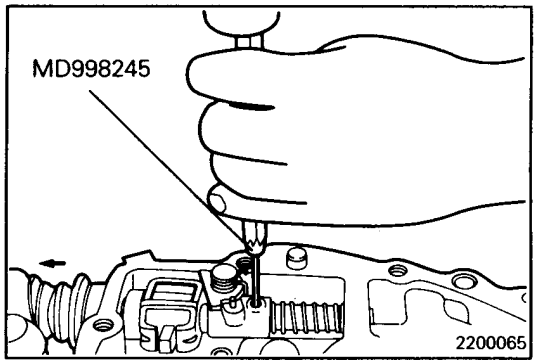








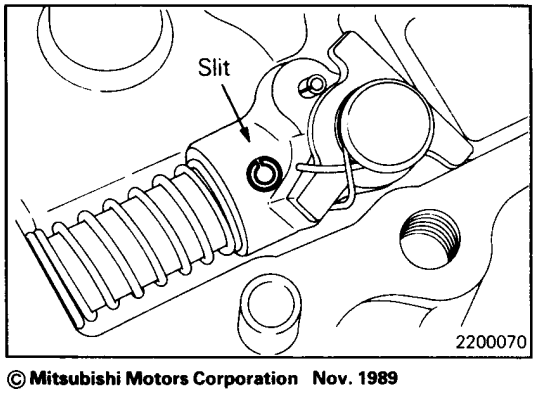
B INSTALLATION OF OIL SEAL



C INSTALLATION OF SPRING PIN / LOCK PIN

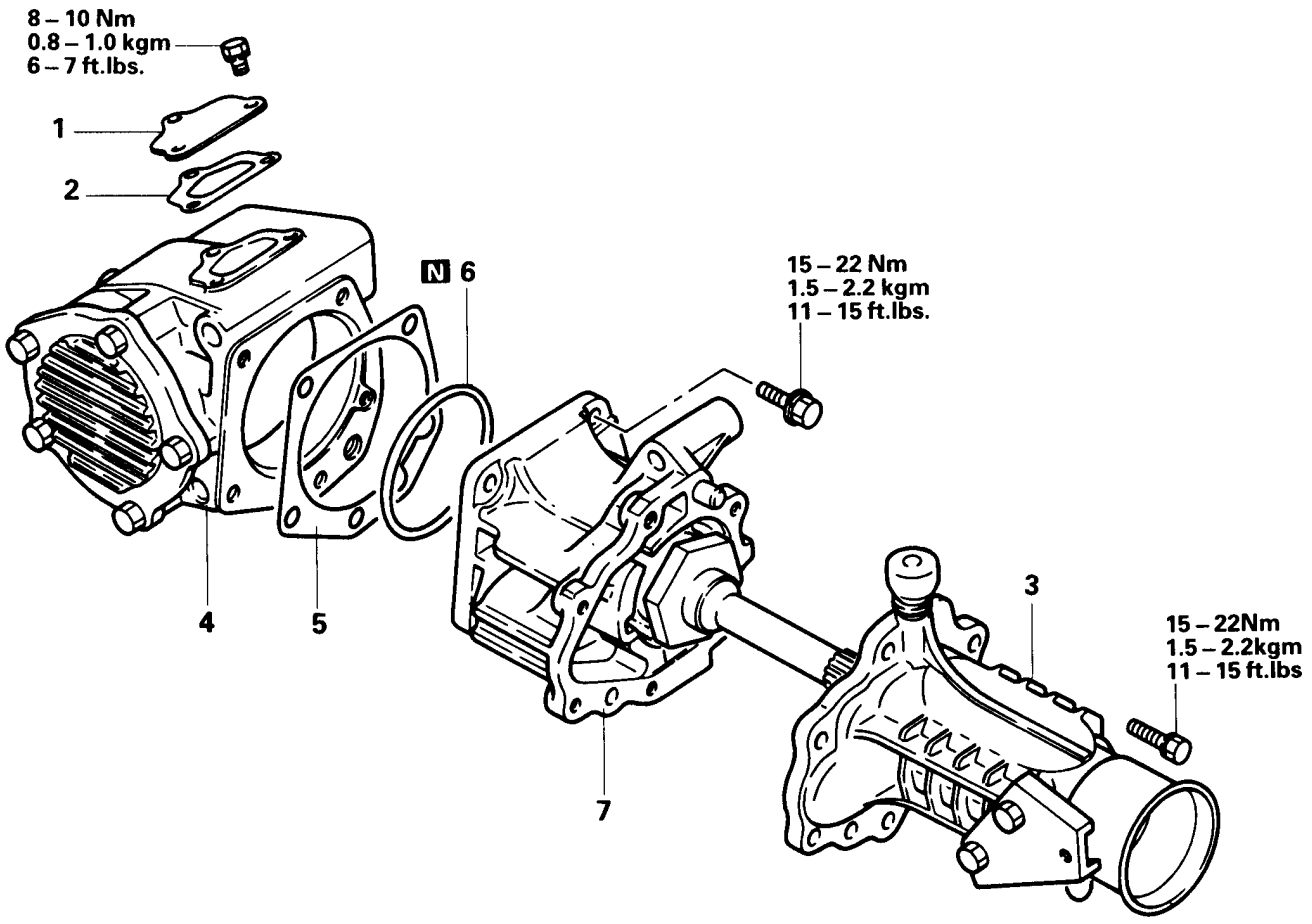
Caution

- **Do not reuse the spring pin and lock pin.**
- **Install the spring pin in such a way its slit will be at right angle to the control shaft center.**



15. TRANSFER

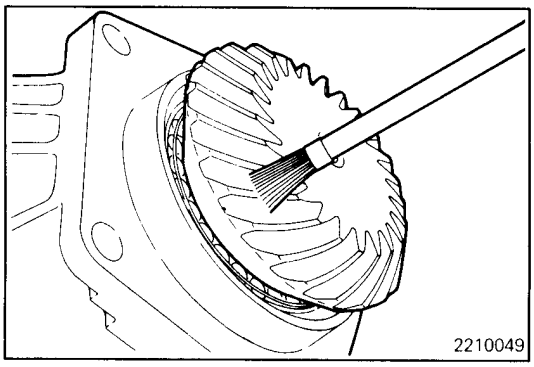
DISASSEMBLY AND REASSEMBLY



Disassembly steps

1. Cover
E 2. Cover gasket
D 3. Extension housing assembly
C 4. Transfer case sub assembly
B 5. Spacer
6. O-ring
A 7. Transfer case adapter sub assembly

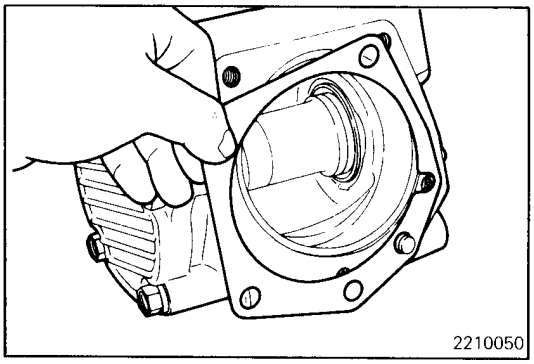
2210130



SERVICE POINTS OF REASSEMBLY

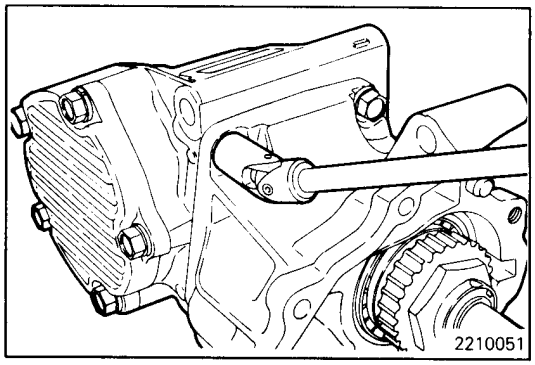
A INSTALLATION OF TRANSFER CASE ADAPTER SUB ASSEMBLY

(1) Apply a light and uniform coat of machine blue or red lead to the driven bevel gear teeth (both sides) using a brush.



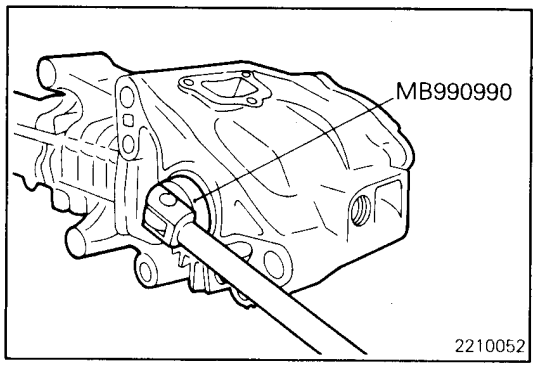
B INSTALLATION OF SPACER

(1) Install the spacer that has been used.



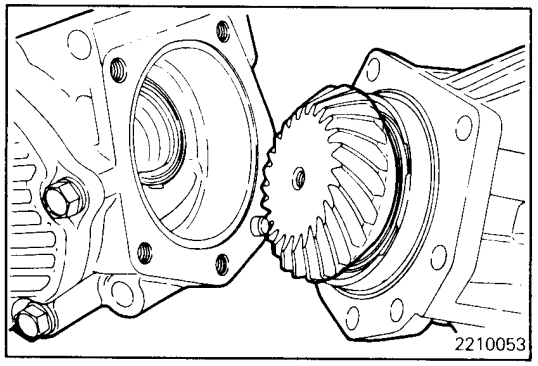
C INSTALLATION OF TRANSFER CASE SUB ASSEMBLY

(1) Tighten the transfer case adapter sub assembly to the transfer case sub assembly to specified torque.



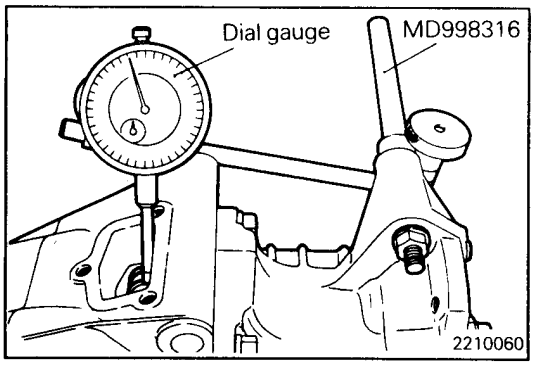
(2) Using the special tool, turn the drive bevel gear shaft (one turn in normal direction, one turn in reverse direction).

NOTE
Do not give the drive bevel gear shaft more than one turn in either direction as this causes unclear tooth contact pattern.



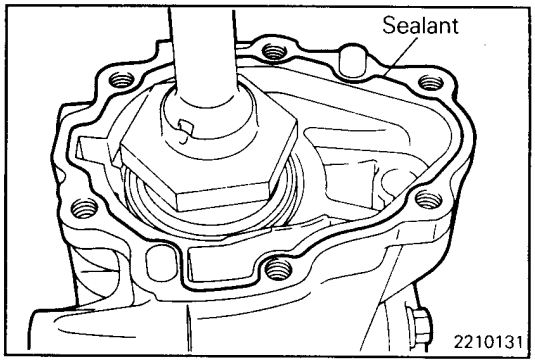
(3) Check to see if the drive bevel gear tooth contact is normal.

NOTE
Refer to the TOOTH CONTACT ADJUSTMENT PROCEDURES on next page (below) for the standard tooth contact.



(4) Check to see if the drive bevel gear and driven bevel backlash is as specified.

Standard value: Bevel gear set backlash
0.08 – 0.13 (0.0031 – 0.0051 in.)

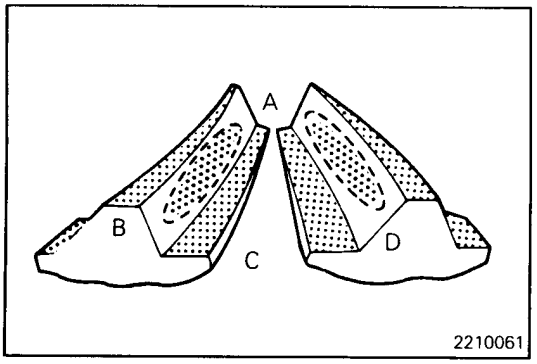


D INSTALLATION OF EXTENSION HOUSING

(1) Apply sealant to the adapter flange surface and install the extension housing.

Specified sealant:
THREEBOND TB1216 or equivalent

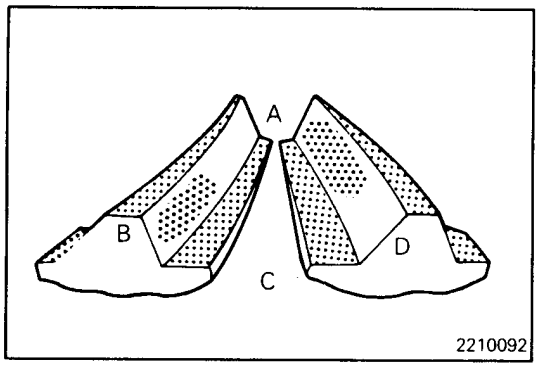
NOTE
Squeeze out sealant from the tube uniformly and continuously in adequante amount.



TOOTH CONTACT ADJUSTING PROCEDURES

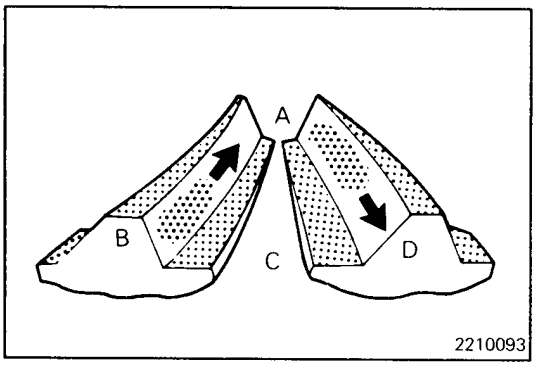
1. Standard tooth contact pattern

A .... Small end side
B .... Drive side tooth face
(Side on which force acts when running forward)
C .... Big end side
D .... Coast side tooth face
(Side on which force acts when reversing)

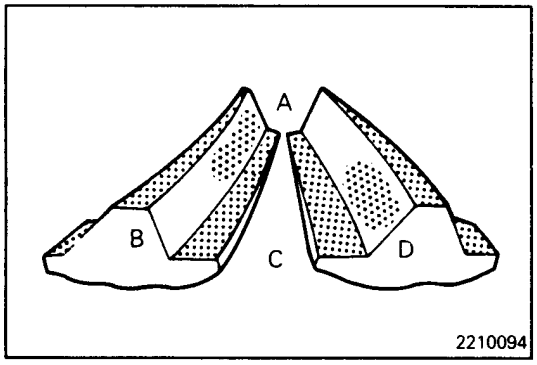


2. Tooth contact pattern produced when drive bevel gear height is too large

Cause
The driven bevel is too close to the drive bevel gear.

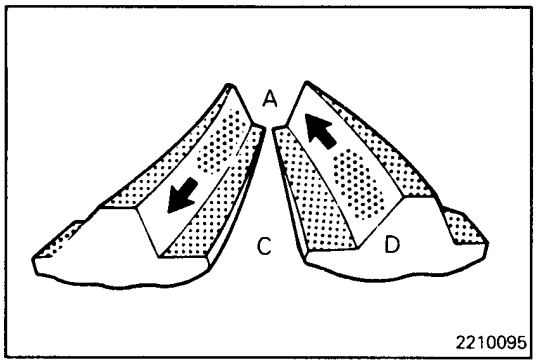


Remedy
Use thicker bevel gear mount adjusting spacer to separate the driven bevel gear more from the drive bevel gear.

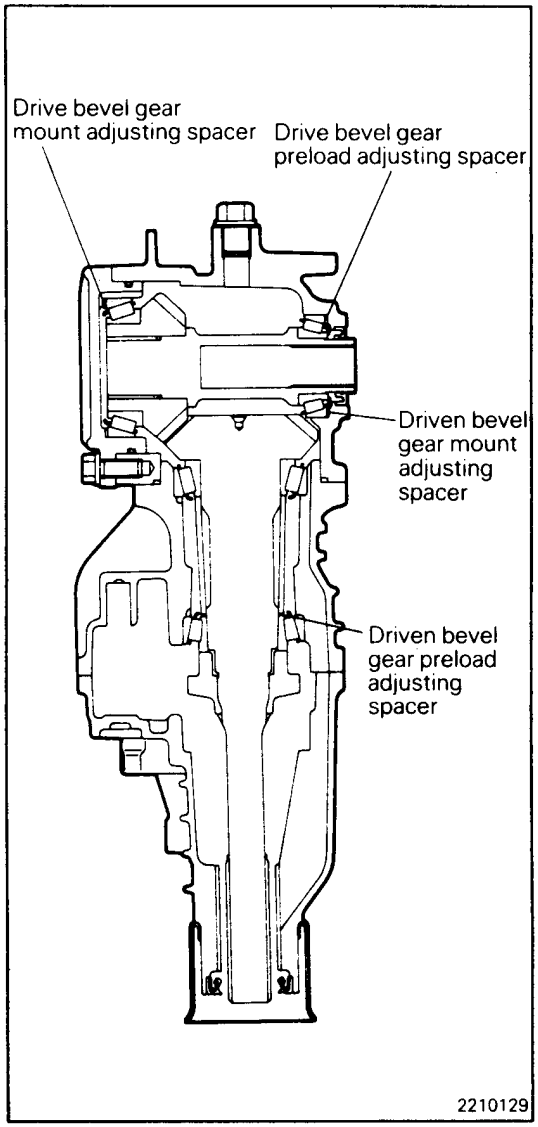


3. Tooth contact pattern produced when driven bevel gear height is too small

Cause
The driven bevel gear is too separated from the drive bevle gear.



Remedy
Use thinner driven bevel gear mount adjusting spacer to bring the driven bevel gear more closer to the drive bevel gear.



NOTE
(1) If correct tooth contact cannot be obtained even by change of the driven bevel gear mount adjusting spacer, increase or decrease the drive bevel gear preload adjusting spacer and the drive bevel gear mount adjusting spacer as described below and then adjust tooth contact again.

- When the driven bevel gear height is too small even if the thinnest driven bevel gear mount adjusting spacer 0.13 mm (0.0051 in.) is used:

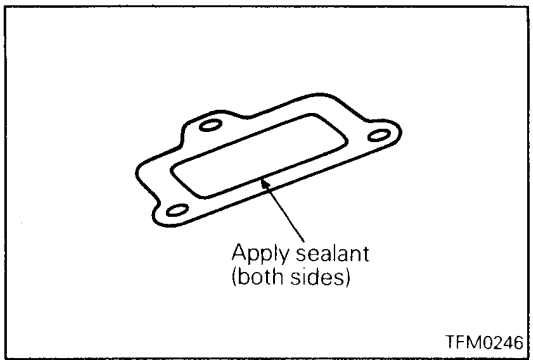
  Replace the drive bevel gear mount adjusting spacer that is in use with one that is one rank thicker and replace the drive bevel preload adjusting spacer that is in use with one that is one rank thinner.

- When the driven bevel gear height is too large even if the thickest driven bevel gear mount adjusting spacer 0.52 mm (0.025 in.) is used:

  Replace the drive bevel gear mount adjusting spacer that is in use with one that is one rank thinner and replace the drive bevel gear preload adjusting spacer that is in use with one that is one rank thicker.

  Repeat above steps until the tooth contact pattern equal or close to the standard pattern is obtained.

(2) If the tooth contact pattern cannot be adjusted close to the standard pattern by above adjustment, replace the drive bevel gear and driven bevel gear as a set and readjust the tooth contact.

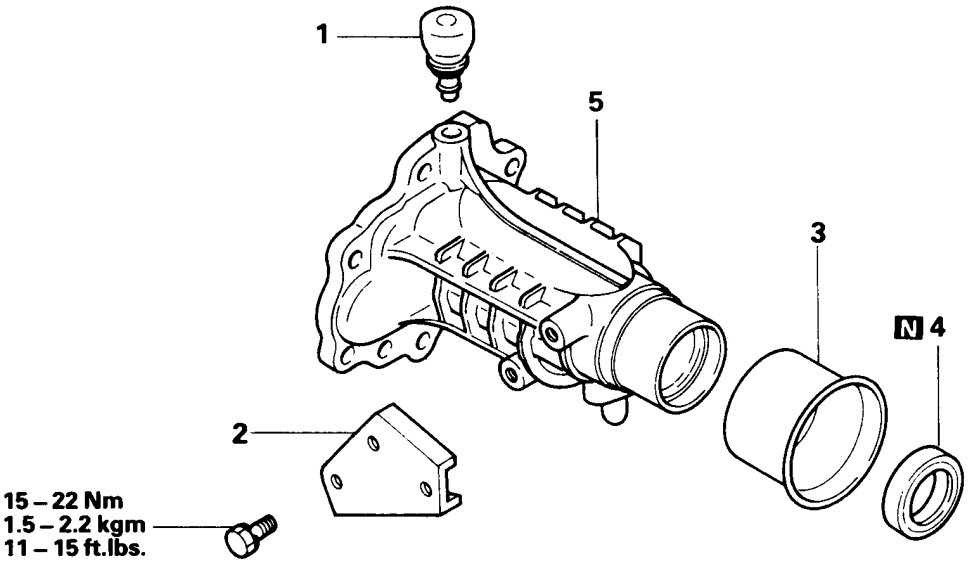


[E] APPLICATION OF SEALANT TO COVER GASKET

Specified sealant:
3M ATD Part No. 8660 or equivalent

16. EXTENSION HOUSING

DISASSEMBLY AND REASSEMBLY



Disassembly steps

[B] 1. Air bleeder
2. Hanger bracket (with differential lock only)
3. Dust seal guard
[A] 4. Oil seal
5. Extention housing

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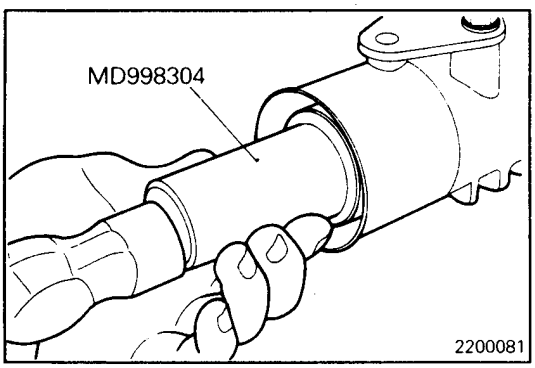
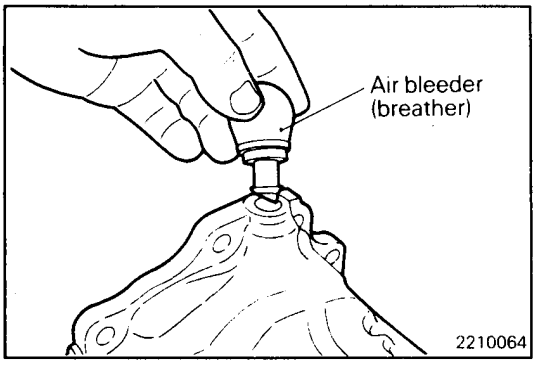


SERVICE POINTS OF REASSEMBLY

[A] INSTALLATION OF OIL SEAL



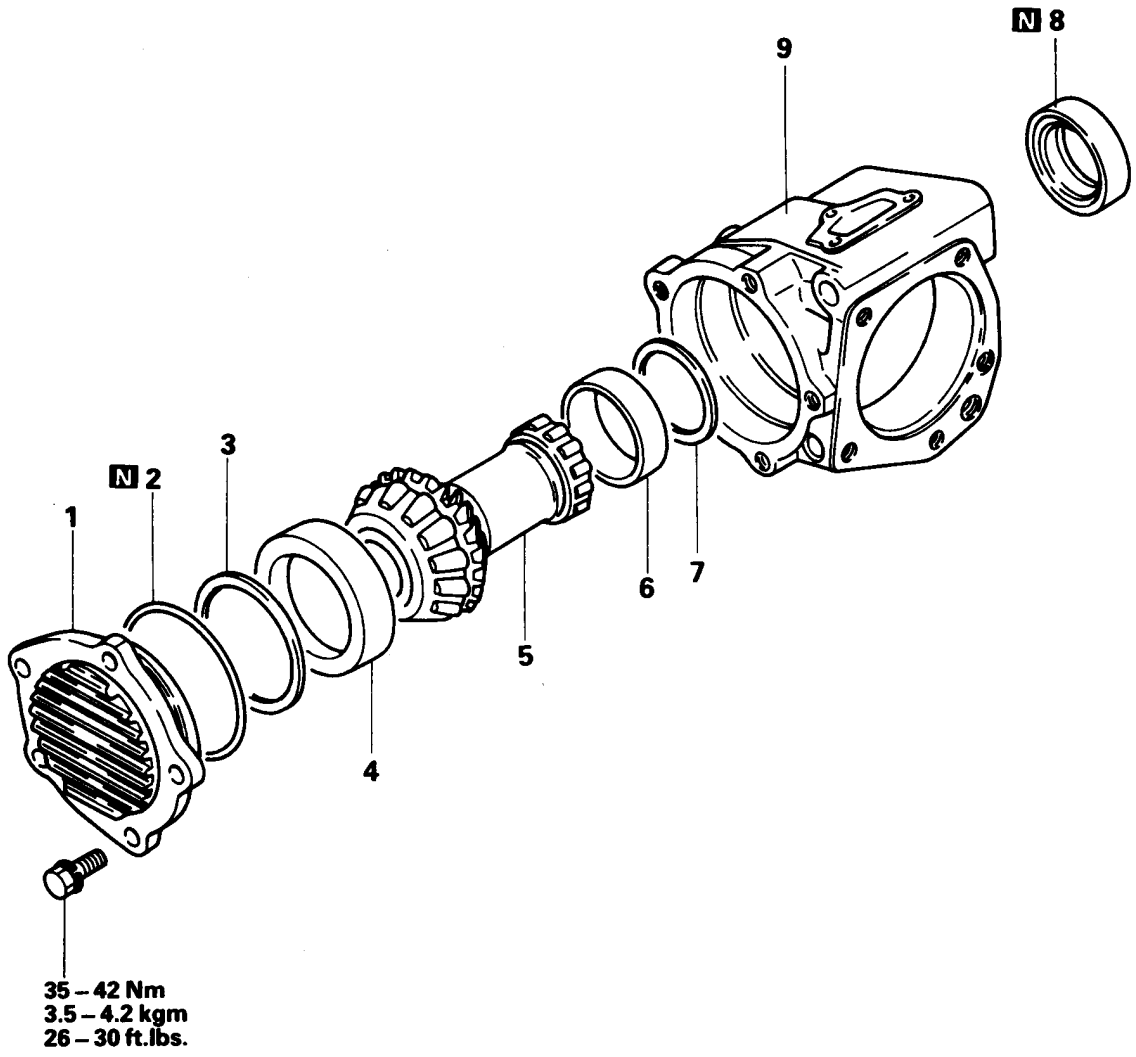
[B] INSTALLATION OF AIR BLEEDER

(1) Install the air bleeder applying sealant to the inserting portion.

Specified sealant:
3M SUPER WETHERSTRIP No. 8001 or equivalent

17. TRANSFER CASE

DISASSEMBLY AND REASSEMBLY



Disassembly steps

1. Transfer cover
2. O-ring
3. [B] Spacer
4. Outer race
5. Drive bevel gear assembly
6. Outer race
7. [B] Spacer
8. [A] Oil seal
9. Transfer case

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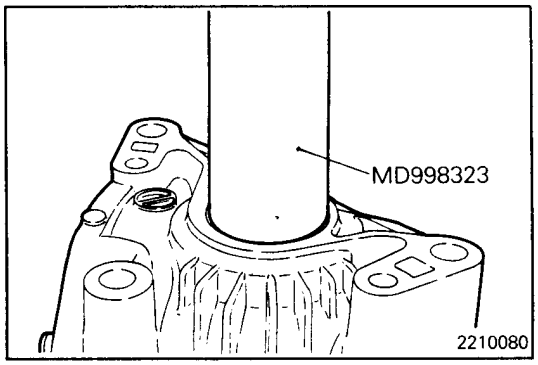
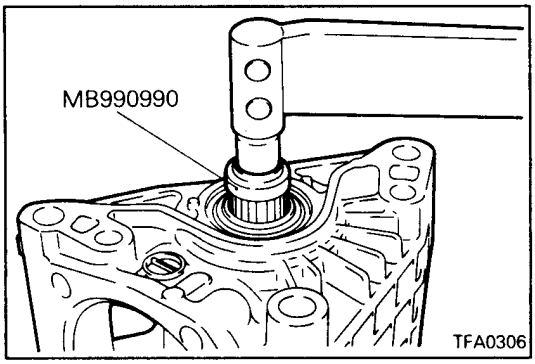


SERVICE POINTS OF REASSEMBLY

A INSTALLATION OF OIL SEAL



B SELECTION OF SPACER

(1) Use the existing spacer to assemble the transfer case.
(2) Using the special tool, check that the bevel gear rotating drive torque is within standard range.

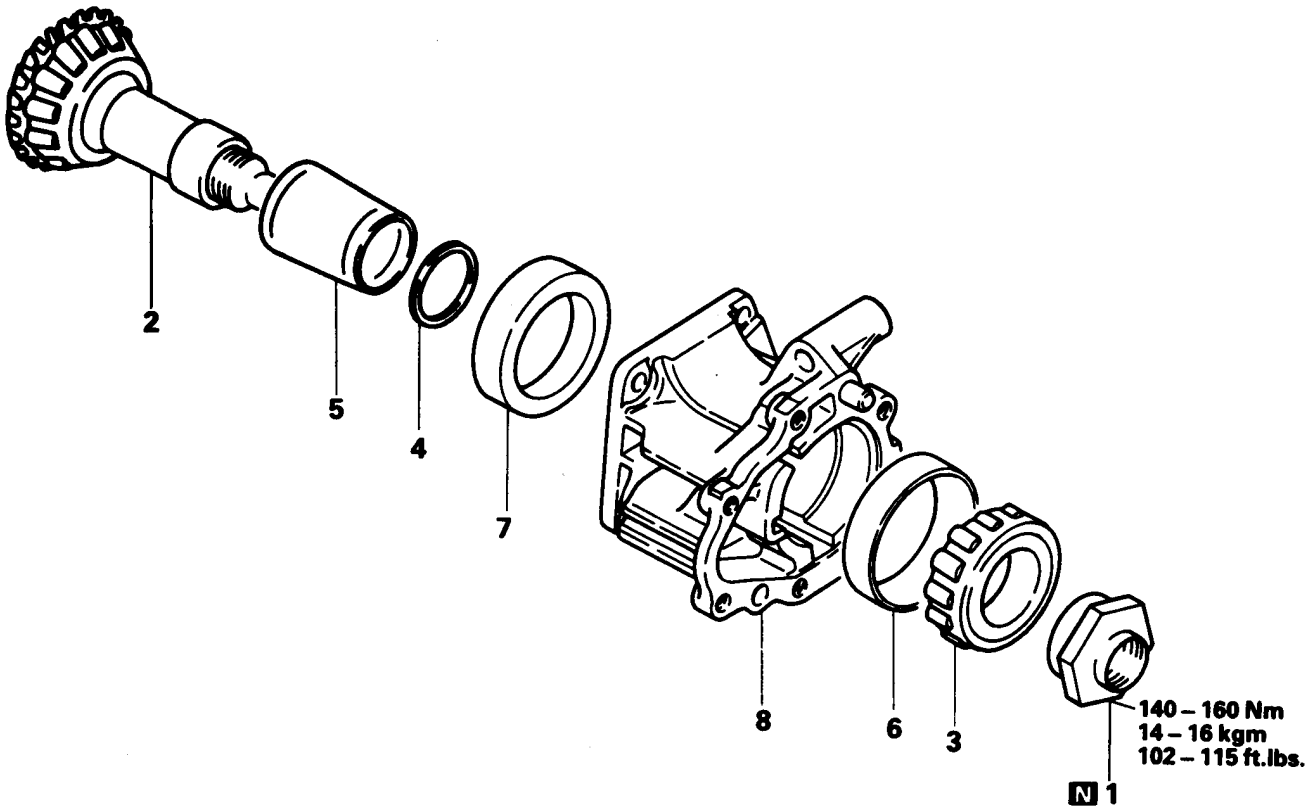
Standard value:
1.7 – 2.5 Nm
(0.17 – 0.25 kgm, 1.23 – 1.81 ft.lbs.)

(3) If the rotating drive torque is outside of the standard range, adjust using adjusting spacers.

NOTE
For adjustment, use two spacers of which thickness is as close as possible to each other.

18. TRANSFER CASE ADAPTER

DISASSEMBLY AND REASSEMBLY



Disassembly steps

Ⓐ Ⓒ 1. Lock nut
Ⓑ 2. Driven bevel gear assembly
Ⓑ 3. Taper roller bearing
Ⓐ 4. Spacer
5. Collar
Ⓒ 6. Outer race
Ⓒ 7. Outer race
8. Transfer case assembly

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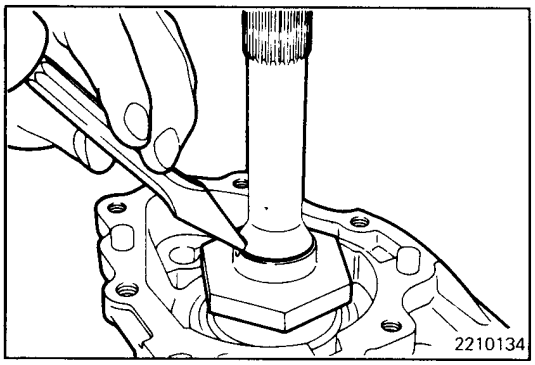
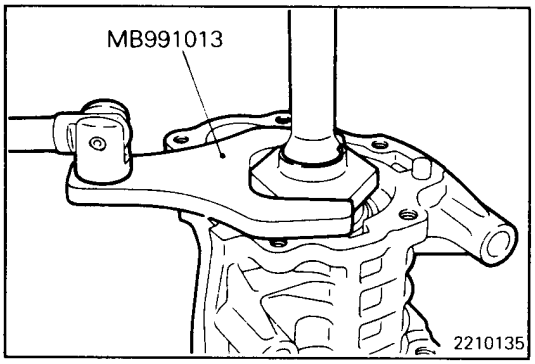


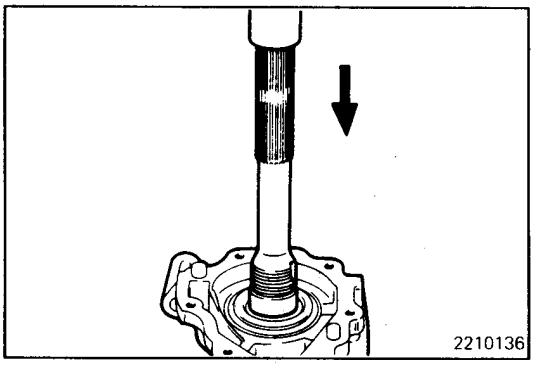
SERVICE POINTS OF DISASSEMBLY

Ⓐ REMOVAL OF LOCKNUT

(1) Unlock the lock nut. (Straighten the bent nut.)

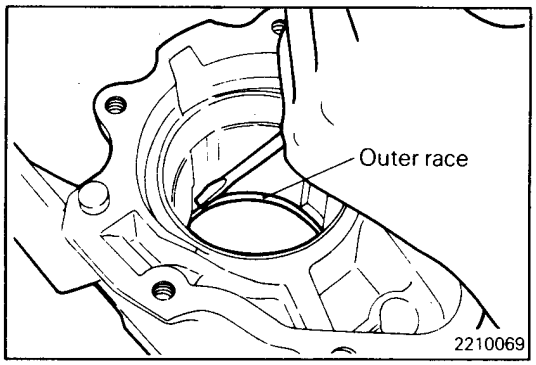


(2) Holding the driven bevel gear in a vice and using the special tool, remove the lock nut.



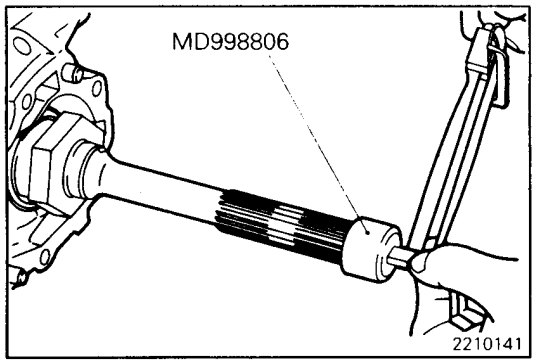
Ⓑ REMOVAL OF DRIVEN BEVEL GEAR ASSEMBLY

(1) Using a press, remove the driven bevel gear assembly.



Ⓒ REMOVAL OF OUTER RACE

(1) Remove the outer race, striking lightly with a screwdriver, etc.



SERVICE POINTS OF REASSEMBLY

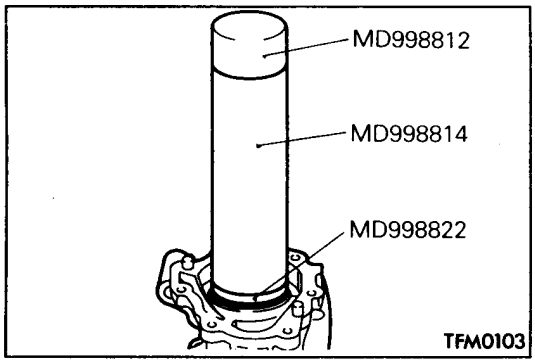
A SELECTION OF SPACER

(1) Use the existing spacer to assemble the transfer case adapter.

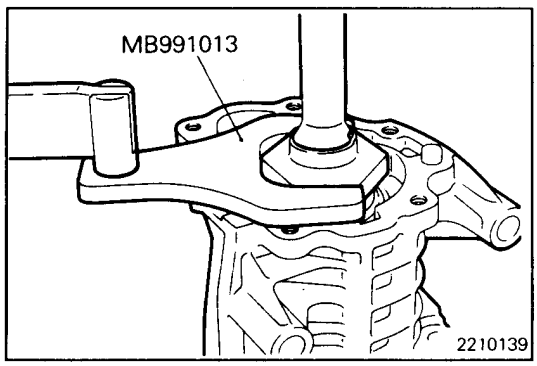
(2) Using the special tool, check that the bevel gear rotating drive torque is within standard range.

Standard value:
1.0 – 1.7 Nm
(0.10 – 0.17 kgm, 0.72 – 1.23 ft.lbs.)

(3) If the rotating drive torque is outside of the standard range, adjust using adjusting spacers.

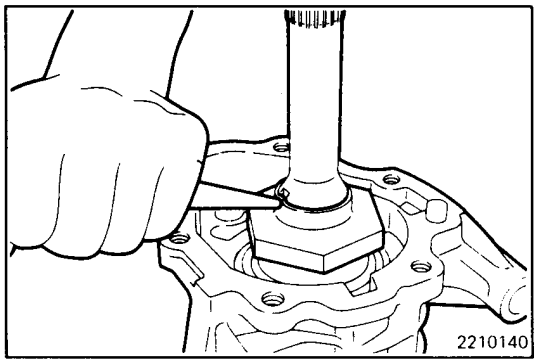


B INSTALLATION OF TAPER ROLLER BEARING



C INSTALLATION OF LOCK NUT

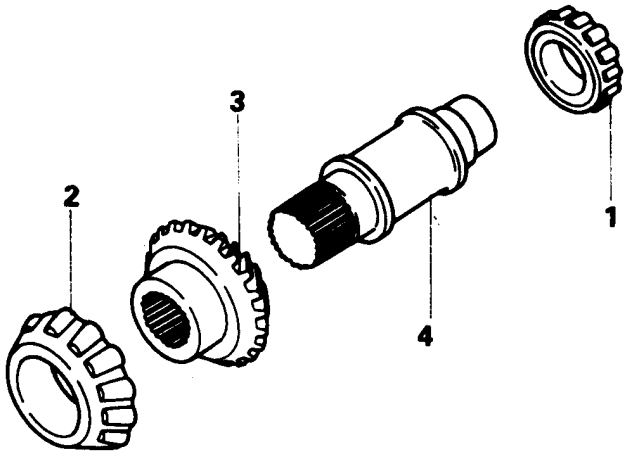
(1) Holding the driven bevel gear in a vice and using the special tool, tighten the lock nut to specified torque.



(2) Lock the lock nut at two positions.

19. DRIVE BEVEL GEAR

DISASSEMBLY AND REASSEMBLY



Disassembly steps

Ⓐ Ⓐ 1. Taper roller bearing
Ⓐ Ⓐ 2. Taper roller bearing
Ⓑ 3. Drive bevel gear
4. Drive bevel gear shaft

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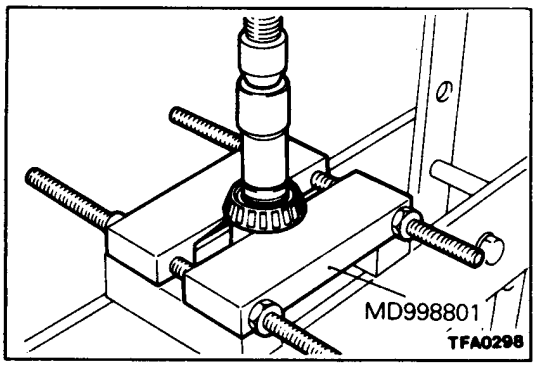
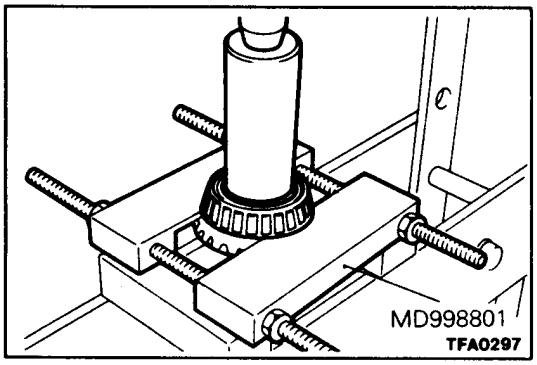
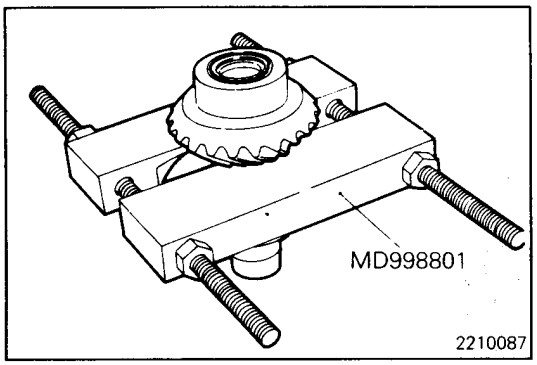




SERVICE POINTS OF DISASSEMBLY

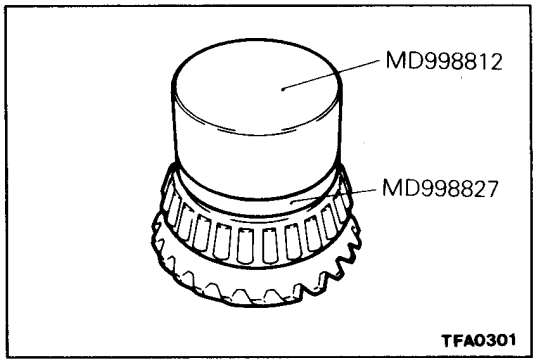
Ⓐ REMOVAL OF TAPER ROLLER BEARING

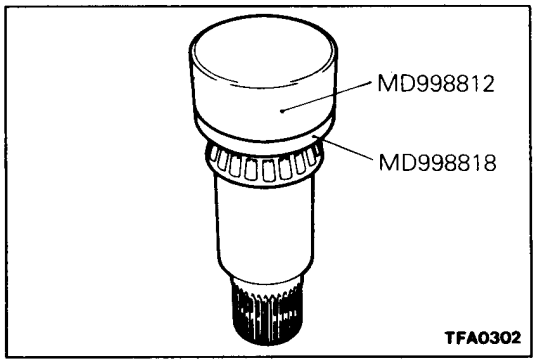


Ⓑ REMOVAL OF DRIVE BEVEL GEAR

SERVICE POINTS OF REASSEMBLY

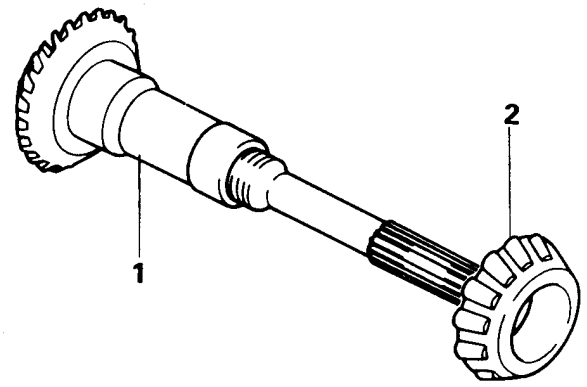
Ⓐ INSTALLATION OF TAPER ROLLER BEARING





20. DRIVEN BEVEL GEAR

DISASSEMBLY AND REASSEMBLY



Disassembly steps

Ⓐ [A] 1. Taper roller bearing
2. Drive bevel gear

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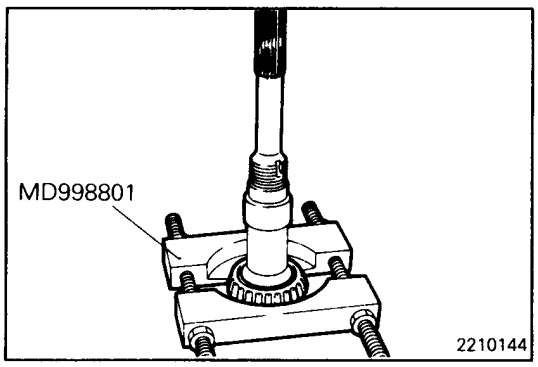
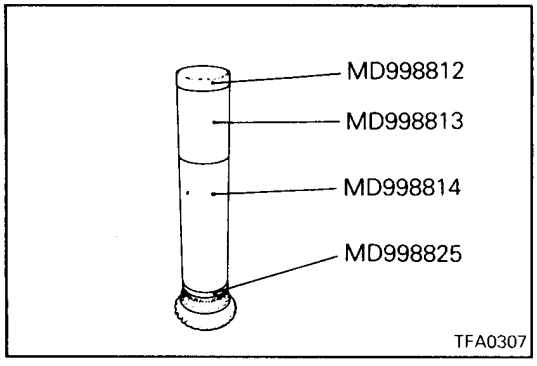


SERVICE POINTS OF DISASSEMBLY

Ⓐ REMOVAL OF TAPER ROLLER BEARING



SERVICE POINTS OF REASSEMBLY

[A] INSTALLATION OF TAPER ROLLER BEARING