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SERVICE MANUAL

Service manual

Addendum No. 7

Jimny 660

V-JA12C-2 V-JA12V-2 E-JA12W-2 E-JA22W-2

SUZUKI

42-48406

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Introduction

Since its release, the Jimny 660 has been very well received as a full-fledged 4WD vehicle. This time, it has been released with a newly developed mechanism, "Drive Action 4x4" (passenger models only), and minor changes have been made to improve the specifications of the interior and exterior. The main features and changes are as follows.

- power transmission device
  - The selector lever on AT vehicles is now equipped with an anti-theft mechanism.
  - The "Drive Action 4x4" mechanism is used, which has a synchronized transfer and an air locking hub as the freewheel hub, allowing switching between 2WD and 4WD while driving by simply operating the transfer lever.

In preparation for the release, we have summarized the changes made to the Jimny 660. Please read them carefully together with the previously published service manual and use them as a guide for service technicians to carry out their work accurately and quickly.

Reference material name			Product number
Service manual	jimny 660	Overview/Maintenance edition	42-48400
Service manual	jimny 660	Addendum No.2	42-48401
Service Manual	Jimny 660	Addendum No.3	42-48402
Service Manual	Jimny 660	Addendum No.4	42-48403
Service manual	jimny 660	Addendum No.5	42-48404
Service manual	jimny 660	Addendum No.6	42-48405
Electrical wiring diagram collection	jimny 660	No.1	43-48400
Electrical wiring diagram collection	jimny 660	No.2	43-48401
engine maintenance book	F6A, F6B		44-11F00
engine maintenance book	K6A		44-70G00

May 1997

Suzuki Motor Corporation

- Please note that the contents may differ from the actual vehicle due to specification changes, etc.
- The explanatory illustrations in this manual show the principles of operation and work procedures and may differ from the actual shapes.
- This manual does not cover everything related to maintenance. It has been created for organizations (Suzuki automobile dealers and retailers) and individuals who have the basic skills and knowledge to maintain Suzuki automobiles. Therefore, those who do not have these skills should not use this manual alone to inspect, adjust, disassemble, or assemble the vehicle. Lack of skills or knowledge may cause maintenance problems or damage to parts.

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engine engine mechanical engine cooling engine control engine electrical	 1A 1B 1C1 1D
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front drive axle propeller shaft rear drive axle	3A 3B 3C
Steering, suspension, wheels and tires steering wheel electric power steering system front suspension rear suspension wheels and tires SRS airbag	 4A1 4A2 4B 4C 4D 4E
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This book is [redacted] Only the section is listed.

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Section OA

overview

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Vehicle appearance

wild wind



The roof carrier is a dealer-installed part.

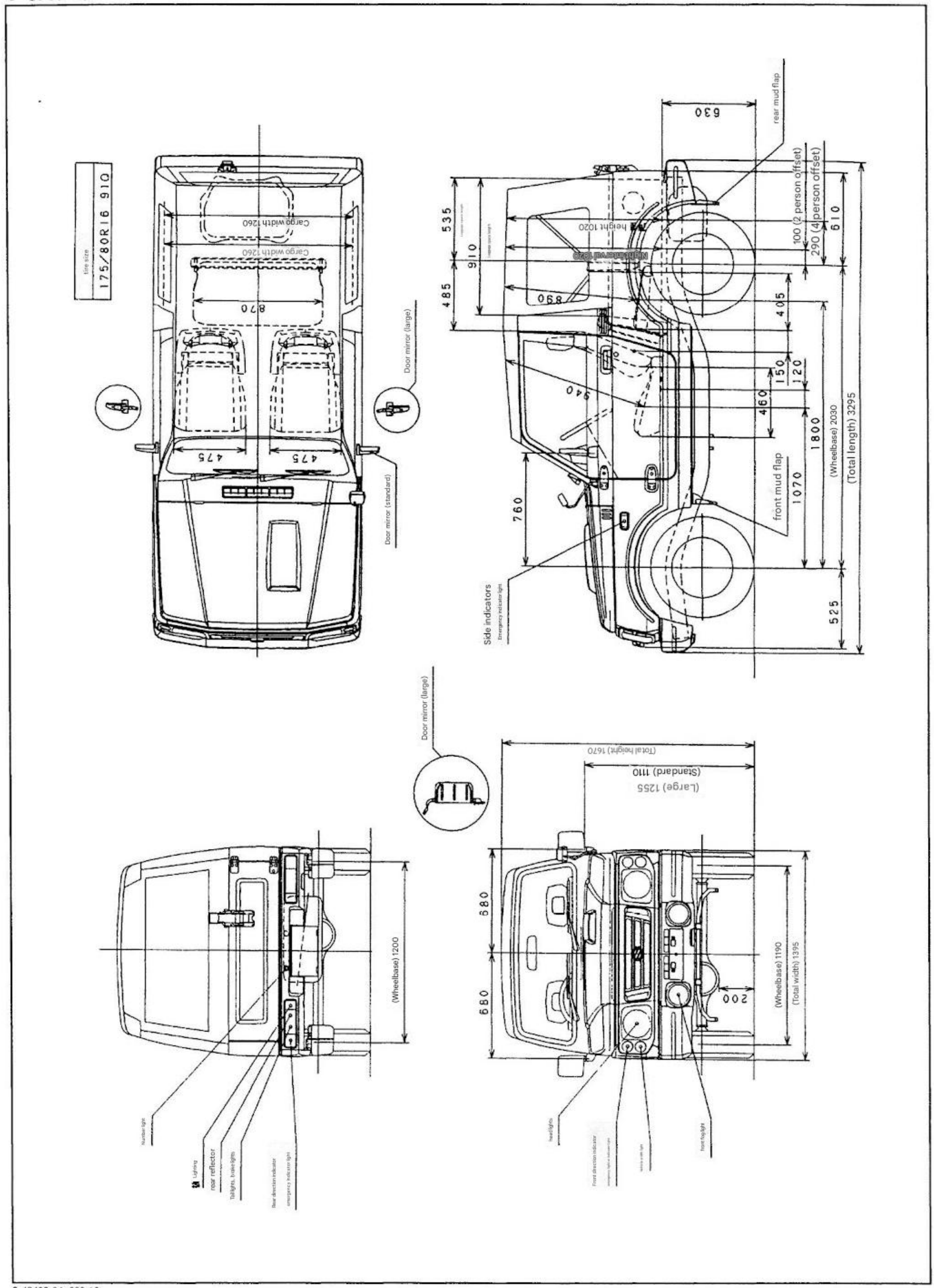
fishing master



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Exterior view from all sides

V-JA12C



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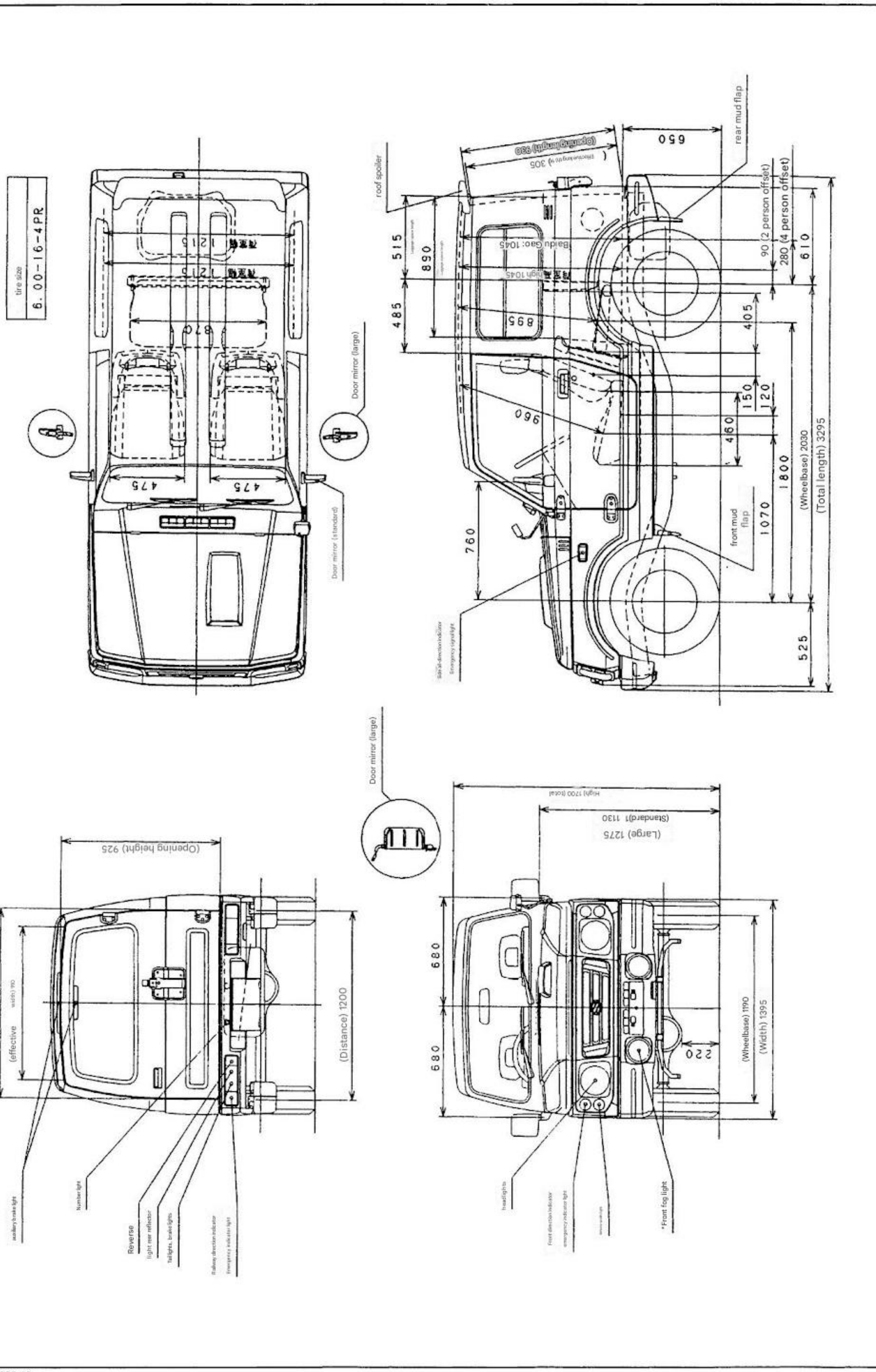
Lighting Equipment Installation List (V-JA12C)

(Unit: mm)

item / By category			175/80R16 91Q tire specifications
Passing headlights	mounting height	top end	825
		lower end	665
	Distance from outermost vehicle		160
front fog light	mounting height	top end	535
		lower end	405
	Distance from outermost vehicle		365
Vehicle width light	mounting height	top end	750
		lower end	690
	Distance from outermost vehicle		55
tail light	mounting height	top end	570
		lower end	500
	Distance from outermost vehicle		155
rear reflector	mounting height	top end	565
		lower end	505
	Distance from outermost vehicle		260
brake light	mounting height	top end	570
		lower end	500
	Distance from outermost vehicle		155
Turn signals and emergency flashers (front)	mounting height	top end	840
		lower end	780
	Inner edge spacing		1160
	Distance from outermost vehicle		55
Turn signal (side/front)	mounting height	top end	865
		lower end	820
	Distance from the front end of the vehicle		835
Turn signal/emergency flashing indicator light (rear)	mounting height	top end	570
		lower end	500
	Inner edge spacing		1100
	Distance from outermost vehicle		70

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V-JA12V



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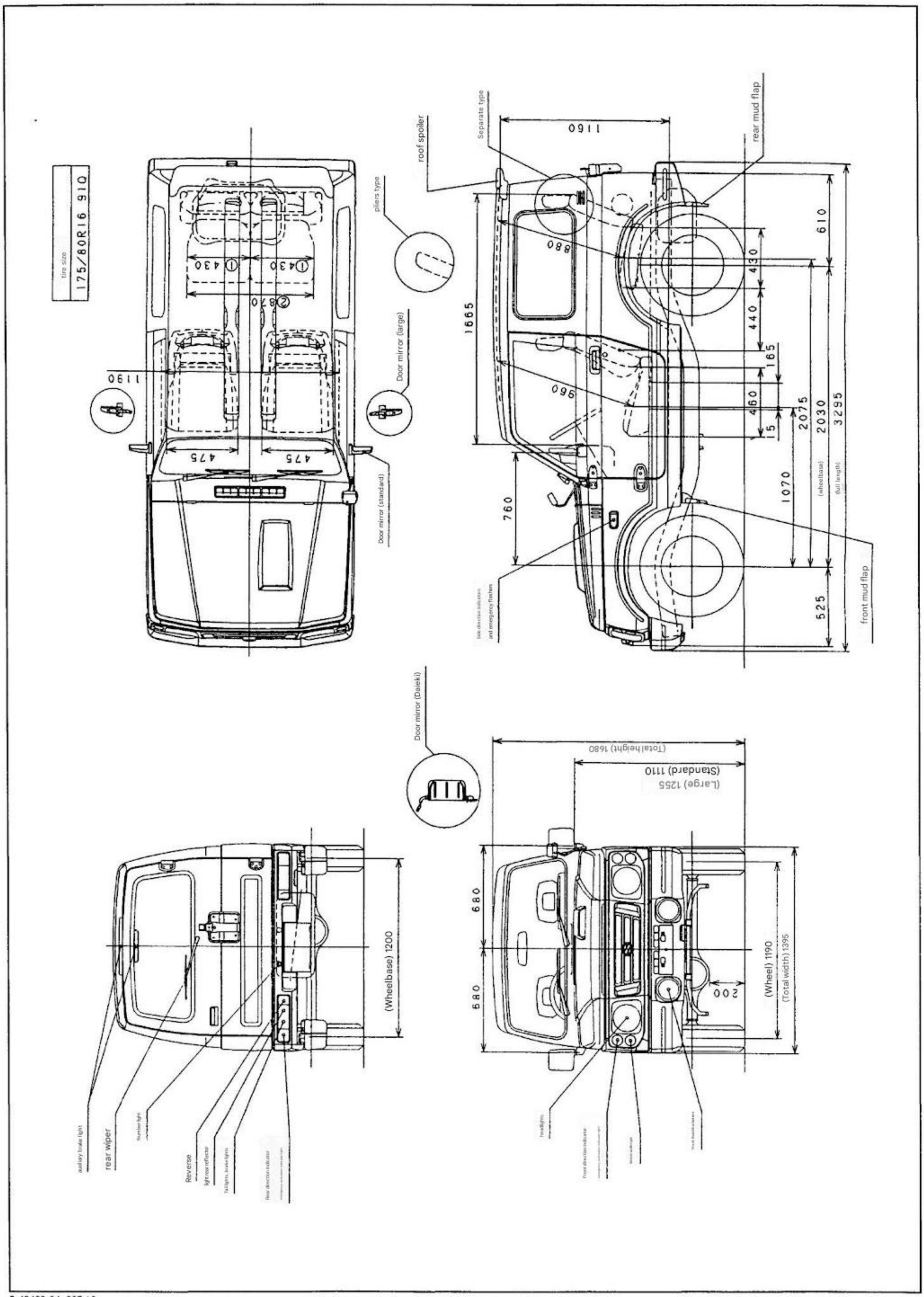
Lighting Equipment Installation List (V-JA12V)

(Unit: mm)

item / By category			6.00-16-4PR tire specifications
Passing headlights	mounting height	top end	845
		lower end	685
	Distance from outermost vehicle		160
front fog light	mounting height	top end	555
		lower end	425
	Distance from outermost vehicle		365
Vehicle width light	mounting height	top end	770
		lower end	710
	Distance from outermost vehicle		55
tail light	mounting height	top end	590
		lower end	520
	Distance from outermost vehicle		155
rear reflector	mounting height	top end	585
		lower end	525
	Distance from outermost vehicle		260
brake light	mounting height	top end	590
		lower end	520
	Distance from outermost vehicle		155
auxiliary brake light	mounting height	lower end	1535 (back window installation)
			1650 (Roof spoiler installed)
	Distance from the bottom edge of the window		—
	Distance from vehicle center plane		0 (Back window installation)
			0 (Roof spoiler installed)
Turn signals and emergency flashers (front)	mounting height	top end	860
		lower end	800
	Inner edge spacing		1160
	Distance from outermost vehicle		55
Turn signal (side/front)	mounting height	top end	885
		lower end	840
	Distance from the front end of the vehicle		835
Turn signal/emergency flashing indicator light (rear)	mounting height	top end	590
		lower end	520
	Inner green interval		1100
	Distance from outermost vehicle		70

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E-JA12W



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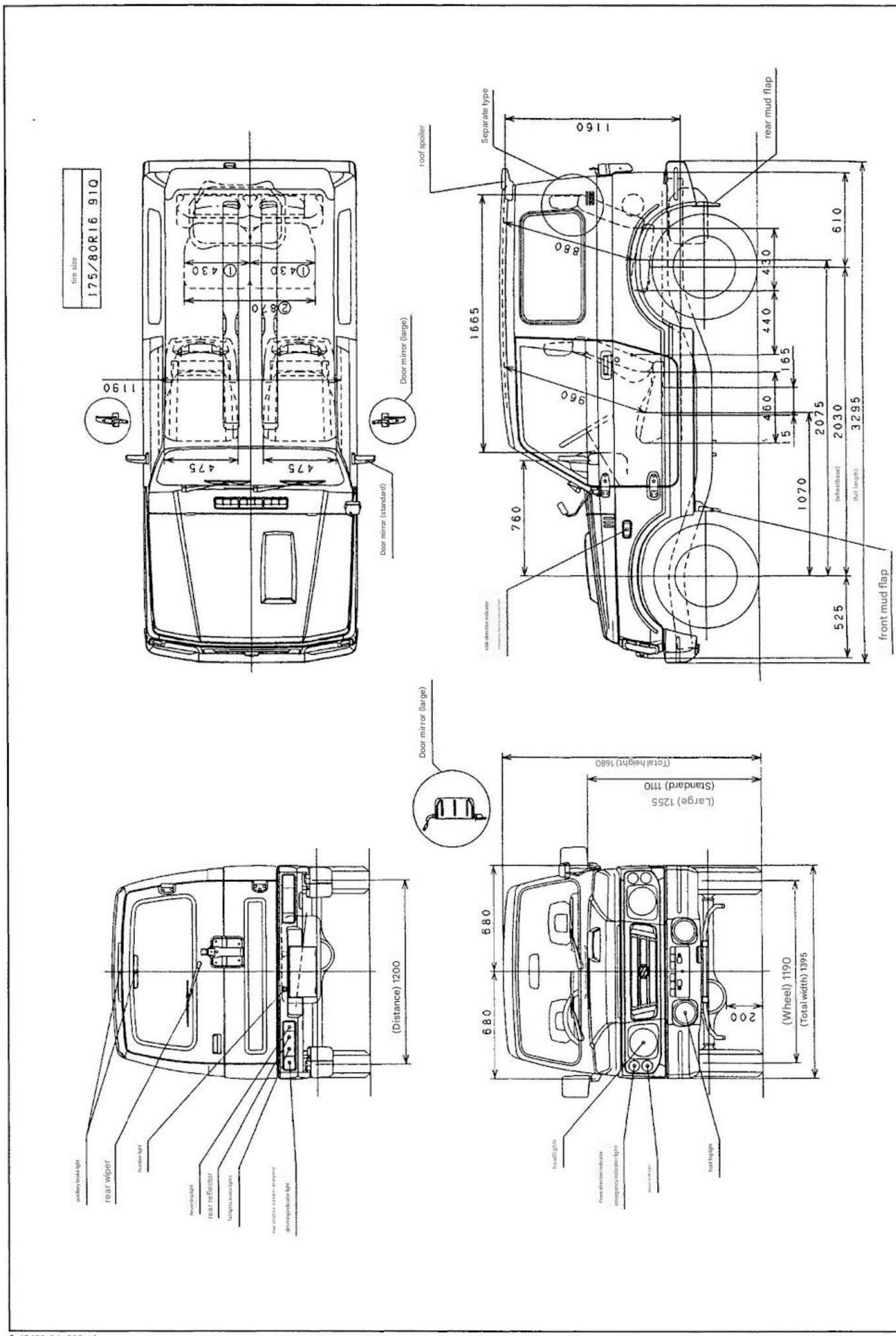
Lighting equipment installation list (V-JA12W)

(Unit: mm)

item \ classification			Full specifications
For passing each other *Headlight	mounting height	top end	825
		lower end	665
	Distance from outermost vehicle		160
front fog light	mounting height	top end	535
		lower end	405
	Distance from outermost vehicle		365
Vehicle width light	mounting height	top end	750
		lower end	690
	Distance from outermost vehicle		55
tail light	mounting height	top end	570
		lower end	500
	Distance from outermost vehicle		155
rear reflector	mounting height	top end	565
		lower end	505
	Distance from outermost vehicle		260
brake light	mounting height	top end	570
		lower end	500
	Distance from outermost vehicle		155
auxiliary brake light	mounting height	lower end	1515 (back window installation)
			1630 (Roof spoiler installed)
	Distance from the bottom edge of the window		—
	Distance from vehicle center plane		0 (Back window installation)
			0 (Roof spoiler installed)
Turn signals and emergency flashers (front)	mounting height	top end	840
		lower end	780
	Inner edge spacing		1160
	Distance from outermost vehicle		55
Turn signal (side/front)	mounting height	top end	865
		lower end	820
	Distance from the front end of the vehicle		835
Turn signal/emergency flashing indicator light (rear)	mounting height	top end	570
		lower end	500
	Inner edge spacing		1100
	Distance from outermost vehicle		70

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E-JA22W



2-48406-0A-009-10

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Lighting equipment installation list (E-JA22W)

(Unit: mm)

item	By category		175/80R16 91Q tire specifications
			standard-roof
Passing headlights	mounting height	top end	825
		lower end	665
	Distance from outermost vehicle		160
front fog light	mounting height	top end	535
		lower end	405
	Distance from outermost vehicle		365
Vehicle width light	mounting height	top end	750
		lower end	690
	Distance from outermost vehicle		55
tail light	mounting height	top end	570
		lower end	500
	Distance from outermost vehicle		155
rear reflector	mounting height	top end	565
		lower end	505
	Distance from outermost vehicle		260
brake light	mounting height	top end	570
		lower end	500
	Distance from outermost vehicle		155
auxiliary brake light	mounting height	lower end	1515 (back window installation)
			1630 (Roof spoiler installed)
	Distance from the bottom edge of the window		—
	Distance from vehicle center plane		0 (Back window installation)
			0 (Roof spoiler installed)
Turn signals and emergency flashers (front)	mounting height	top end	840
		lower end	780
	Inner edge spacing		1160
	Distance from outermost vehicle		55
Turn signal (side/front)	mounting height	top end	865
		lower end	820
	Distance from the front end of the vehicle		835
Turn signal/emergency flashing indicator light (rear)	mounting height	top end	570
		lower end	500
	Inner edge spacing		1100
	Distance from outermost vehicle		70

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Vehicle configuration

Common name	Vehicle model	body	prime mover	Drive method	grade	Sales model code	Classification division number	transmission	equipment
jimny	JA12C	Canopy	F6A 1-2 T/C	part time	hood	JCCU-2	005	5MT	
	JA12V	van			H.A.	JHAU-2	001	5MT	
	JA12W	hard top		4WD	XL	JXLU-2	004	5MT	A/C, P/S
						JXLR-2	012	3AT	
						JXLU-D2	008	5MT	A/B&ABS, A/C, P/S
						JXLR-D2	016	3AT	
	JA22W		K6A 2-4 T/C		XC	JXCU-2	001	5MT	P/S
						JXCR-2	009	3AT	
						JXCU-D2	003	5MT	A/B&ABS, P/S
						JXCR-D2	011	3AT	
					wild Wind	JXCU-E2	002	5MT	A/C, P/S
						JXCR-E2	010	3AT	
						JXCU-ED2	004	5MT	A/B&ABS, A/C, P/S
						JXCR-ED2	012	3AT	
					Phishing master	JXCU-F2	002	5MT	A/C, P/S
						JXCR-F2	010	3AT	
						JXCU-FD2	004	5MT	A/B&ABS, A/C, P/S
						JXCR-FD2	012	3AT	

• A/B (airbag) is only installed on the driver's side.

Body color list

Vehicle color name		Superior white	radiant Let mica	miami blue Metallic No.2	british green pearl	mercury silver metallic
color symbol		26U	0FT	0BM	Z1D	1VN
paint manufacturers		kansai paint	kansai paint	Nihon Yushi	kansai paint	japan paint
Model name	hood	●		●		
	H.A.	●				
	XL		●		●	●
	XC		●		●	●
	wild wind			●	●	●
	fishing master	●			●	●

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Main equipment list

EQUIPMENT Main equipment

type		For riding		commercial	
body		hard top		van	hood
Model name		XC	XL	H.A.	CC
transformer mission	5 speed manual	JXCU-2 〈JXCU-D2〉	JXLU-2 〈JXLU-D2〉	JHAU-2	JCCU-2
	3 speed automatic	JXCR-2 〈JXCR-D2〉	JXLU-2 〈JXLR-D2〉		
Comfortable equipment	air conditioner		●		
Instrument panel	AM/FM cassette stereo (with antenna)		●		
	power steering	● (electric)	●		
	Transparent meter panel and air conditioning panel lighting	●	●	●	●
	3-spoke urethane steering wheel *1	●	●	●	●
	tachometer	●	●		●
	trip meter	●	●		●
	cigarette lighter	●	●		●
interior	Side combined sun visor	right left	right left	right left	right left
	3 position room lamp	front	front	front	center
	luggage room lamp	●	●		
	Anti-glare room mirror	●	●	●	●
	assist grip	front/rear	front/rear	front/rear	
	instrument panel grip	●	●	●	●
	door armrest	●	●		●
	door trim	molding	molding	port	molding
	quarter trim	molding	molding	board	board
	back door trim	molding	molding		board
	full trim	●	●		
	floor carpet	velor	velor	PVC	PVC
	luggage carpet	Peroa	velor		
sheet	front seat skin	full cross	full cross	vinyl	vinyl
	front seat headrest	separation	separation	separation	separation
	Front belt in seat	●	●	●	●
	passenger seat walk-in	●	●	●	●
	rear seat skin	full cross	full cross	vinyl	vinyl
	rear seat	splittable	Can be folded down	Can be folded down	Can be folded down
	rear seat pillow	●			
	ELR 3-point seat belt	front/rear	front/rear	front	front
Pocketeria	Sun visor ticket holder (driver's seat)	●	●	●	●
	glove box with key	●	●	●	●
	coin case	●	●	●	●
	center console box	Can also be used as a cup holder	Can also be used as a cup holder		
	rear side pocket	Can also be used as a cup holder	Can also be used as a cup holder		
	front ash tray	With lighting	With lighting	●	With lighting
exterior	heat ray absorption green glass	●	●	●	●
	halogen headlamp	●	●		●
	halogen fog lamp	●	●		
	intermittent wiper	●	●		●
	Rear wiper & washer	●	●		
	Heated back window glass	●	●	●	
	full colored bumper		●		
	canvas top				●
	Sports bar (with pad)				●
others	Vehicles equipped with driver's seat SRS airbag and 4-wheel ABS [Manufacturer option as a set]	▲	▲		
	side door beam	●	●	●	●
	Seat belt warning light (driver's seat)	●	●	●	●
	Key removal warning buzzer/Lights forgetting to turn off warning buzzer	●	●	●	●
	front stabilizer	●	●	●	●
	footrest	AT car	AT car		
	front disc brake	●	●	●	●
	barking brake lock				●
	freewheel hub: air locking hub	●	●		
	freewheel hub: manual hub			●	●
	Aluminum wheels *2		●		
	tire	175/80R16 radial tires	175/80R16 radial tires	6.00-16-4PR	175/80R16 radial tires

▲ Indicates vehicles equipped with this feature (manufacturer option)

*1 Vehicles equipped with driver's seat SRS airbag and 4-wheel ABS will have a 4-spoke urethane steering wheel.

*2 The spare tire is a steel wheel.

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wild wind

SPECIAL PACKAGE exclusive equipment

air conditioner

AM/FM cassette stereo (with antenna)

Dedicated seat skin

UV-cut glass (front door)

Smoked glass (quarter and back window glass)

Dedicated aluminum system base carrier*

16 inch aluminum wheel *1

Special aluminum spare tire housing*

Exclusive side stripe tape

full colored bumper

Bumper molding (plated)

* Dealer installed item.

EQUIPMENT General equipment

Quick equipment: Instrument panel

Power steering (electric)

Transparent meter panel and air conditioning panel lighting

3-spoke urethane steering wheel *2

tachometer

trip meter

cigarette lighter

interior

Side sun visor (right and left)

3-position room lamp (front)

luggage room lamp

Anti-glare room mirror

Assist grips (front and rear)

instrument panel grip

door armrest

full trim

Floor/luggage carpet (Pelor)

sheet

Front belt in seat

passenger seat walk-in

Split folding rear seats (with seat pillow)

ELR 3-point seat belts (front and rear)

Pocketeria

Sun visor ticket holder (driver's seat)

glove box with key

coin case

Center console box (also serves as cup holder)

Rear side pocket (doubles as cup holder)

Front ashtray (with lighting)

exterior

heat ray absorption green glass

halogen headlamp

halogen fog lamp

intermittent wiper

Rear wiper & washer

Heated back window glass

others

Driver's seat SRS airbag & 4-wheel ABS
(Set includes manufacturer's option)

side door beam

Seat belt warning light (driver's seat)

Key removal warning buzzer/Lights forgetting to turn off warning buzzer

front stabilizer

Footrest (AT vehicle)

front disc brake

Freewheel hub (air locking hub)

175/80R16 radial tires

Base vehicle: Jimny Hardtop XC

*The spare tire is a steel wheel.

*2 Vehicles equipped with driver's seat SRS airbag and 4-wheel ABS will have a 4-spoke urethane steering wheel.

fishing master

SPECIAL PACKAGE exclusive equipment

air conditioner

AM/FM cassette stereo (with antenna)

Wood style instrument panel

Tarpaulin cover*

Rod holder*

UV-cut glass (front door)

16 inch aluminum wheel *1

Special aluminum spare tire housing*

Dedicated side decal

Tray mat (front)*

* Dealer installed item.

EQUIPMENT General equipment

Comfort features: Instrument panel

Power steering (electric)

Transparent meter panel and air conditioning panel lighting

3-spoke urethane steering wheel *2

tachometer

trip meter

cigarette lighter

interior

Side sun visors (right and left)

3-position room lamp (front)

luggage room lamp

Anti-glare room mirror

Assist grips (front and rear)

instrument panel grip

door armrest

full trim

Floor/luggage carpet (Pelor)

sheet

Front belt in seat

passenger seat walk-in

Split folding rear seats (with seat pillow)

ELR 3-point seat belts (front and rear)

Pocketeria

Sun visor ticket holder (driver's seat)

glove box with key

coin case

Center console box (also serves as cup holder)

Rear side pocket (doubles as cup holder)

Front ashtray (with lighting)

exterior

heat ray absorption green glass

halogen headlamp

halogen fog lamp

intermittent wiper

Rear wiper & washer

Heated back window glass

others

Driver's seat SRS airbag & 4-wheel ABS
[Factory option-set]

side door beam

Seat belt warning light (driver's seat)

Key removal warning buzzer/Lights forgetting to turn off warning buzzer

front stabilizer

Footrest (AT vehicles)

front disc brake

Freewheel hub (air locking hub)

175/80R16 radial tires

Base vehicle: Jimny Hardtop XC

*1 The spare tire is a steel wheel.

*2Vehicles equipped with driver's seat SRS airbag and 4-wheel ABS will have a 4-spoke urethane steering wheel.

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Main specifications

item \ Model			JA12C	JA12V
			JCCU-2	JHAU-2
Designated number			8362	8363
Type Classification number			005	001
Car name and model			Suzuki V-JA12C	Suzuki V-JA12V
Chassis name and model			Suzuki JA12C	Suzuki JA12V
Vehicle type			Light (4 wheels)	
		Purpose	cargo	
		shape car body	bonnet	van
shaft		Distance (m)	2.030	
engine		Type of fuel	gasoline	
Prime mover type			F6A	
exhaust	Total volume	(l)	0.657	
long width high		Sa(m)	3.295	
		(m)	1.395	
		Sa(m)	1.670	1.700
Wheel	length (m)	front wheel	1.190	
		rear wheel	1.200	
Inside dimensions of the loading platform (m)		length	0.910 (0.535)	0.890 (0.515)
		width	1.260 (1.260)	1.215 (1.215)
		height	1.020 (1.020)	1.045 (1.045)
Bed offset (m)			−0.100 (−0.290)	−0.090 (−0.280)
vehicle weight (kg)		front axle load	460	
		Rear axle load	400	430
		Total	860	890
Riding quota		member (person)	twenty four)	
Maximum load capacity (kg)			250 (150)	200 (100)
Gross vehicle weight (kg)		front axle load	500 (505)	505 (510)
		Rear axle load	720 (725)	695 (700)
		Total	1,220 (1,230)	1,200 (1,210)
maximum stability Tilt angle		Left (°)	45	44
		Right (°)	43	42
wheel		array	2D (S) −2D	
tire		front wheel	175/80R16 91Q	6.00-16-4PR
		rear wheel	175/80R16 91Q	6.00-16-4PR
Tolerance limit (kg)		front axle load	600	
		Rear axle load	1,000	
		Gross vehicle weight	1,600	

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item \ Model		JA12W			
		JXLU-2	JXLU-D2	JXLR-2	JXLR-D2
Designated number		8364			
Type Classification number		004	008	012	016
Car name and model		Suzuki E-JA12W			
Chassis name and model		Suzuki JA12W			
Type of vehicle		Light (4 wheels)			
Purpose		passenger			
Body shape		station wagon			
shaft	Distance (m)	2.030			
Type of fuel		gasoline			
Prime mover type		F6A			
Total displacement		0.657			
long	Sa(m)	3.295			
width	(m)	1.395			
high	Sa(m)	1.680			
Wheel length (m)	front wheel	1.190			
	rear wheel	1.200			
Indoor dimensions (m)	Track length	1.665			
	width	1.190			
	height	1.160			
Vehicle weight (kg)	front shaft weight	480	490		500
	Rear axle load	440			
	Total	920	930		940
Riding quota	member (person)	4			
Gross vehicle weight (kg)	Front axle load	530	540		550
	Rear axle load	610			
	Total	1,140	1,150		1,160
Tilt angle	Left (°)	45			
	Right (°)	43			
wheel	array	2D (S) −2D			
tire	front wheel	175/80R16 91Q			
	rear wheel	175/80R16 91Q			

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item \ Model	JA22W							
	JXCU-2	JXCU-E2 JXCU-F2	JXCU-D2	JXCU-ED2 JXCU-FD2	JXCR-2	JXCR-E2 JXCR-F2	JXCR-D2	JXCR-ED2 JXCR-FD2
number	8365							
Type Category Number 001 002 003				004	009	010	011	012
Car name and model	Suzuki E-JA22W							
Chassis name and model	Suzuki JA22W							
Type of vehicle	Light (4 wheels)							
for On the way	passenger							
car body shape	station wagon							
shaft Distance (m)	2.030							
fuel type	gasoline							
Engine type	K6A							
Total displacement	0.658							
long Sa(m)	3.295							
width (m)	1.395							
Sa(m)	1.680							
Wheel length (m) front wheel	1.190							
rear wheel	1.200							
Indoor dimensions (m) wheelbase length	1.665							
width	1.190							
height	1.160							
vehicle weight (kg) Axle load	450	460		470	460	470		480
rear axle weight	440							
Total	890	900		910	900	910		920
ride Capacity (people)	4							
Gross vehicle weight (kg) Front axle load	500	510		520	510	520		530
Rear axle load	610							
maximum stability Tilt angle Total	1,110	1,120		1,130	1,120	1,130		1,140
Left (°)	45							
Right (°)	43							
wheel array	2D (S) −2D							
tire front wheel	175/80R16 91Q							
rear wheel	175/80R16 91Q							

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Detailed specifications

V-JA12C

Lighting equipment etc.

Front fog lamp: Model	35500−82C0 ㊀F−57
Front fog lights: number, color and performance	2, pale yellow 55W 2, white 55W
Parking lights: number, color and performance	2. White 5W 31cm2
Tail lights: number and performance	2.5W 70cm² Used as brake light
Brake lights: number and performance	2. 21W 70cm2 Used as tail light
Reverse lights: number and performance	2, 21W
Turn signals: Front: Number and performance	2.21W 31cm² 85 times/min. Combined with emergency flasher
Turn signal: Rear: Number and performance	2. 21W 57cm² 85 times/min. Used as emergency flasher
Emergency flasher: Front: Number and performance	2. 21W 31cm² 85 times/min. Combined with turn signals
Emergency flasher: Rear: Number and performance	2. 21W 57cm² 85 times/min. Combined with turn signals

alarm device

Horn: Model	①38500−8100 ②38500−8100 , 38500−60A0 ③38500−70E0 ④38500−70E0 , 38500−60A0
Horns: number and performance	①③1, flat type electric 102 phon ②④2, flat type electric 103 phon

The lines indicate the changes.

V-JA12V

Lighting equipment etc.

Front fog lamp: Model	35500−82C0 ㊀F−57
Front fog lights: number, color and performance	2. Light yellow 55W 2. White 55W
Parking lights: number, color and performance	2. White 5W 31cm²
Tail lights: number and performance	2. 5W 70cm² Used as brake light
Brake lights: Model	220−32143
Brake lights: number and performance	2. 21W 70cm² Used as tail light
Auxiliary Brake Lights: Type	AH2 (Back window installation) 050-8986 (Roof spoiler built-in)
Auxiliary brake lights: number and performance	1. 5W x 4 43cm2 1. (back window installation) 5.4W 43cm² (LED, 56 pieces) (built into roof spoiler)
Reverse lights: number and performance	2, 21W
Turn signals: Front: Number and performance	2. 21W 31cm² 85 times/min. Combined with emergency flasher
Turn signal: Rear: Number and performance	2. 21W 57cm² 85 times/min. Combined with emergency flashing indicator light
Emergency flasher: Front: Number and performance	2. 21W 31cm² 85 times/min. Combined with turn signals
Emergency flasher: Rear: Number and performance	2. 21W 57cm² 85 times/min. Combined with turn signals

alarm device

Horn: Model	①38500−8100 ②38500−8100 , 38500−60A0 ③38500−70E0 ④38500−70E0 , 38500−60A0
Horns: number and performance	①③1, flat type electric 102 phon ②④2, flat type electric 103 phon

The lines indicate the changes.

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E-JA12W

Lighting equipment etc.

Front fog light: Model	35500－82C0 ㊀F－57
Front fog lights: quantity, color and performance	2, pale yellow 55W 2, white 55W
Vehicle side lights: quantity, color and performance	2, white 5W 31cm2
Tail lights: quantity and performance	2, 5W 70cm² Combined with brake light
Brake light: model	220－32143
Brake lights: quantity and performance	2, 21W 70cm² Combined with tail light
Auxiliary brake light: Model	AH2 (back window installation) 050-8986 (built-in roof spoiler)
Auxiliary brake lights: quantity and performance	1、5W×4 43cm² (back window installation) 1, 5.4W 43cm² (LED, 56 pieces) (built-in roof spoiler)
Reversing lights: quantity and performance	2, 21W
Turn signal: Front: Quantity and performance	2.21W 31cm² 85 times/min Combined with emergency flashing indicator light
Turn signal: Rear: Quantity and performance	2. 21W 57cm² 85 times/min Can also be used as an emergency flashing indicator light
Emergency flashing indicator light: Front: Quantity and performance	2, 21W 31cm² 85 times/min Combined with direction indicator
Emergency flashing indicator light: Rear: Quantity and performance	2, 21W 57cm² 85 times/min Combined with direction indicator

alarm device

Alarm: Model	①38500－8100 ②38500－8100 , 38500－60A0 ③38500－70E0 ④38500－70E0 , 38500－60A0
Horn: Number and performance	①③1, flat electric type 102 phons ②④2, flat electric type 103 phons

_____ Lines indicate changes.

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E-JA22W

minimum ground clearance

Minimum ground clearance m	0.200 (175/80R16 91Q tire specifications)

performance

Fuel consumption km/l:	23.2 (60km/h) (MT-175/80R16 91Q tire specification) 18.1 (60km/h) (AT-175/80R16 91Q tire specification)

traveling device

Tire rim: Front wheel	steel 16×5J Light alloy 16×51/2JJ [custom order specifications]	(175/80R16 91Q tire specifications) (175/80R16 91Q tire specifications)
Tire rim: Rear wheel	steel 16×5J Light alloy 16×51/2JJ [custom order specifications]	(175/80R16 91Q tire specifications) (175/80R16 91Q tire specifications)
Tire type: Front wheel	With or without tubes	(175/80R16 91Q tire specifications)
Tire type: Rear wheel	With or without tubes	(175/80R16 91Q tire specifications)

Lighting equipment etc.

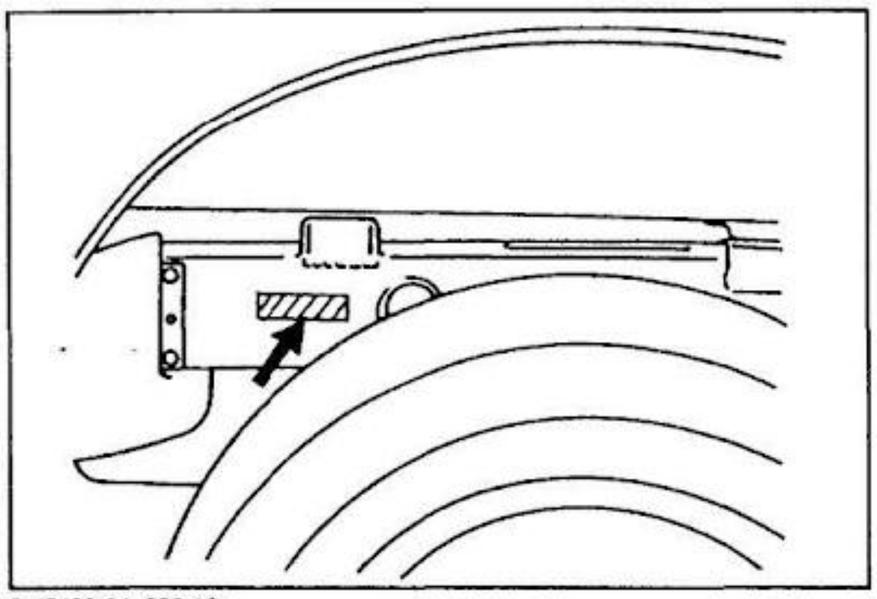
Front fog lamp: Model	35500−82C0 ㊀F−57
Front fog lights: number, color and performance	2. Light yellow 55W 2. White 55W
Parking lights: number, color and performance	2. White 5W 31cm²
Taillights: Number and performance	2. 5W 70cm² Used as brake light
Brake lights: Model	220−32143
Brake lights: number and performance	2. 21W 70cm2 Used as tail light
Auxiliary Brake Lights: Type	AH2 (back window installed) 050-8986 (Roof spoiler built in)
Auxiliary brake lights: number and performance	1、5W×4 43cm² 1. 5.4W 43cm2 (LED, 56 pieces) (back window installation) [Custom-made specifications for standard roof vehicles] (Roof spoiler built-in)
Reverse lights: number and performance	2, 21W
Turn signals: Front: Number and performance	2. 21W 31cm² 85 times/min. Combined with emergency flasher
Turn signal: Rear: Number and performance	2. 21W 57cm² 85 times/min. Used as emergency flasher
Emergency flasher: Front: Number and performance	2. 21W 31cm² 85 times/min. Compatible with turn signals
Emergency flasher: Rear: Number and performance	2. 21W 57cm² 85 times/min. Compatible with turn signals

alarm device

Horn: Model	①38500−8100 ②38500−8100 , 38500−60A0 ③38500−70E0 ④38500−70E0 , 38500−60A0
Horns: number and performance	①③1, flat type electric 102 phon ②④2, flat type electric 103 phon

The lines indicate the changes.

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2-48406-0A-020-10

General overview

vehicle identification

Chassis number

Stamp location: Frame side inside rear right tire housing

JA12C -150001~

JA12V -150001~

JA12W-150001~

JA22W-150001~

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Section 2B

automatic transmission

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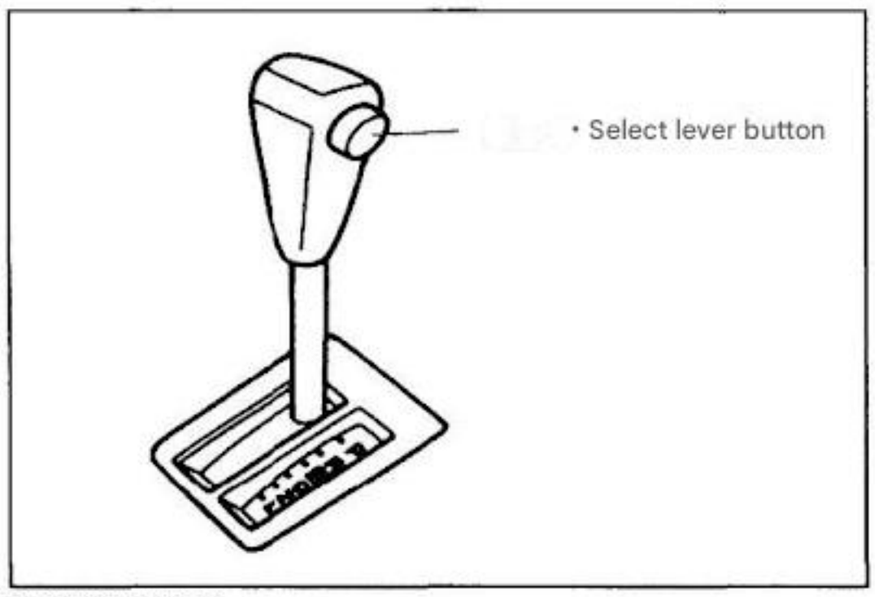
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overview

Eliminates the need to operate the select lever button when switching from AT select lever D to 2.

In addition, a new function has been added to the key interlock shift lock device that prevents the selector lever from being operated when the ignition key is in the LOCK position.



2-48406-2B-002-10

Select mechanism

D→② The need to operate the select lever button when switching has been eliminated, improving operability.

Reference: It is no longer necessary to operate the selector lever button when switching from D to ②, which eliminates the need to finely adjust the operating force while driving to prevent over-stroke to the range.

		● Parking location - The transmission output shaft is mechanically locked. The engine can be started. P - The key interlock mechanism of the ignition key is released. - When the ignition key is ON, you can shift to another range by pressing the button while depressing the brake pedal.
⬆⬇		● Reverse position R: Used when reversing the vehicle.
⬆⇩	N	● neutral position The engine can be started.
⇧⇩	D	● Normal driving position - Gears automatically change between 1st, 2nd and 3rd gears depending on vehicle speed and throttle opening.
⇧⇩	2	● This position is used when applying engine brakes or when you want to keep the gear fixed at 2nd gear. -Automatically shifts between 1st and 2nd gear.
⇧⬇	L	● 1st gear position - Use this when powerful engine braking is required when going up or down steep slopes.

◆Press the button to operate

⇨ Continue operating as is

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Shift lock device with key interlock

In addition to the conventional shift lock function (B state below), a new function has been added that "the selector lever cannot be operated when the ignition key is in the LOCK position" (A state below).

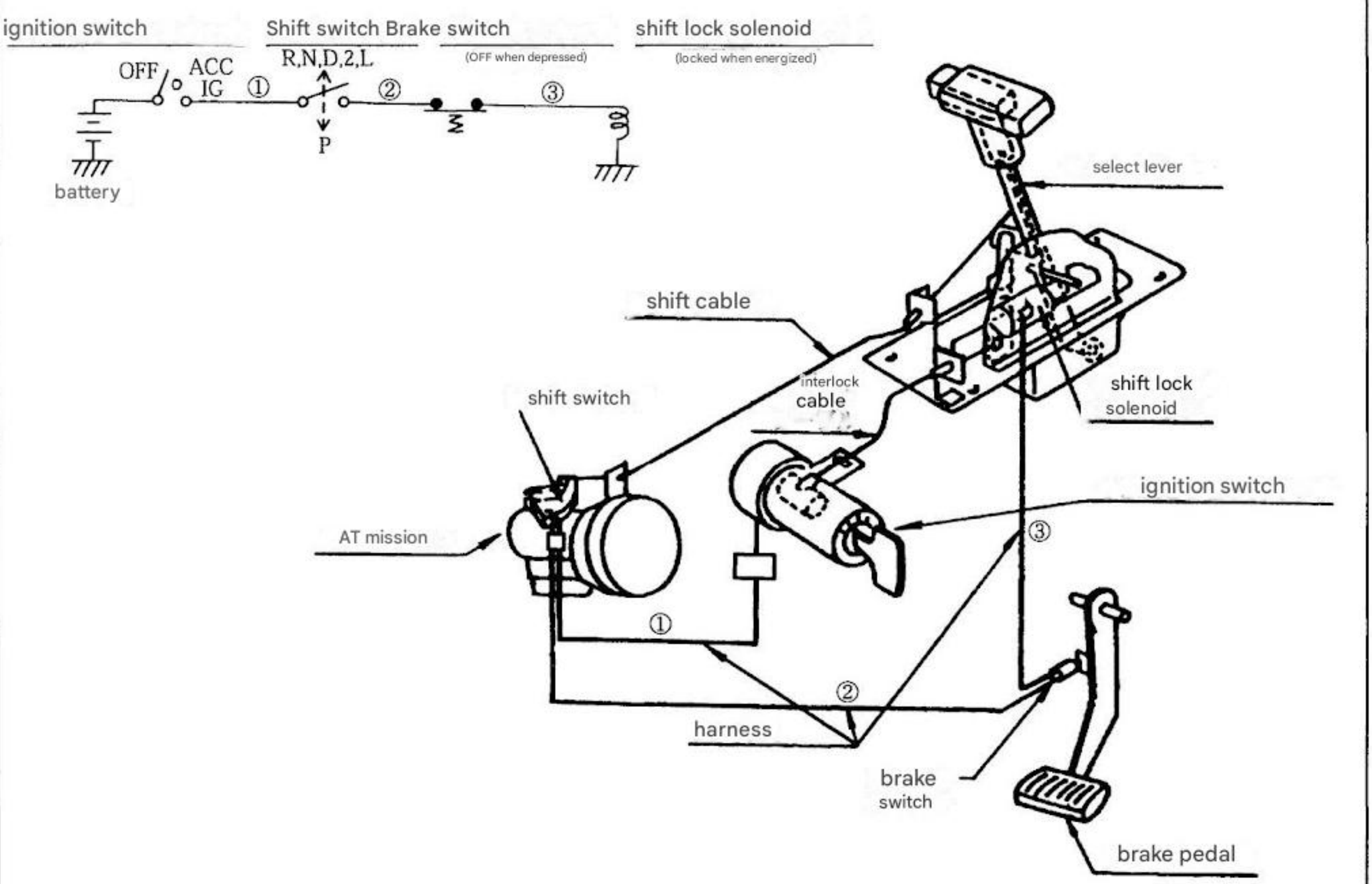
reference:· The key interlock mechanism prevents the ignition key from being removed when the selector lever is not in the P position.

- The shift lock mechanism prevents the selector lever from being operated under either of the following conditions A or B.

A. When the ignition key is in the LOCK position

B. When the selector lever is in the ON position and the ignition key is ON, the brake pedal is not depressed.

- When the ignition key is in the ACC position, the shift lock is released.



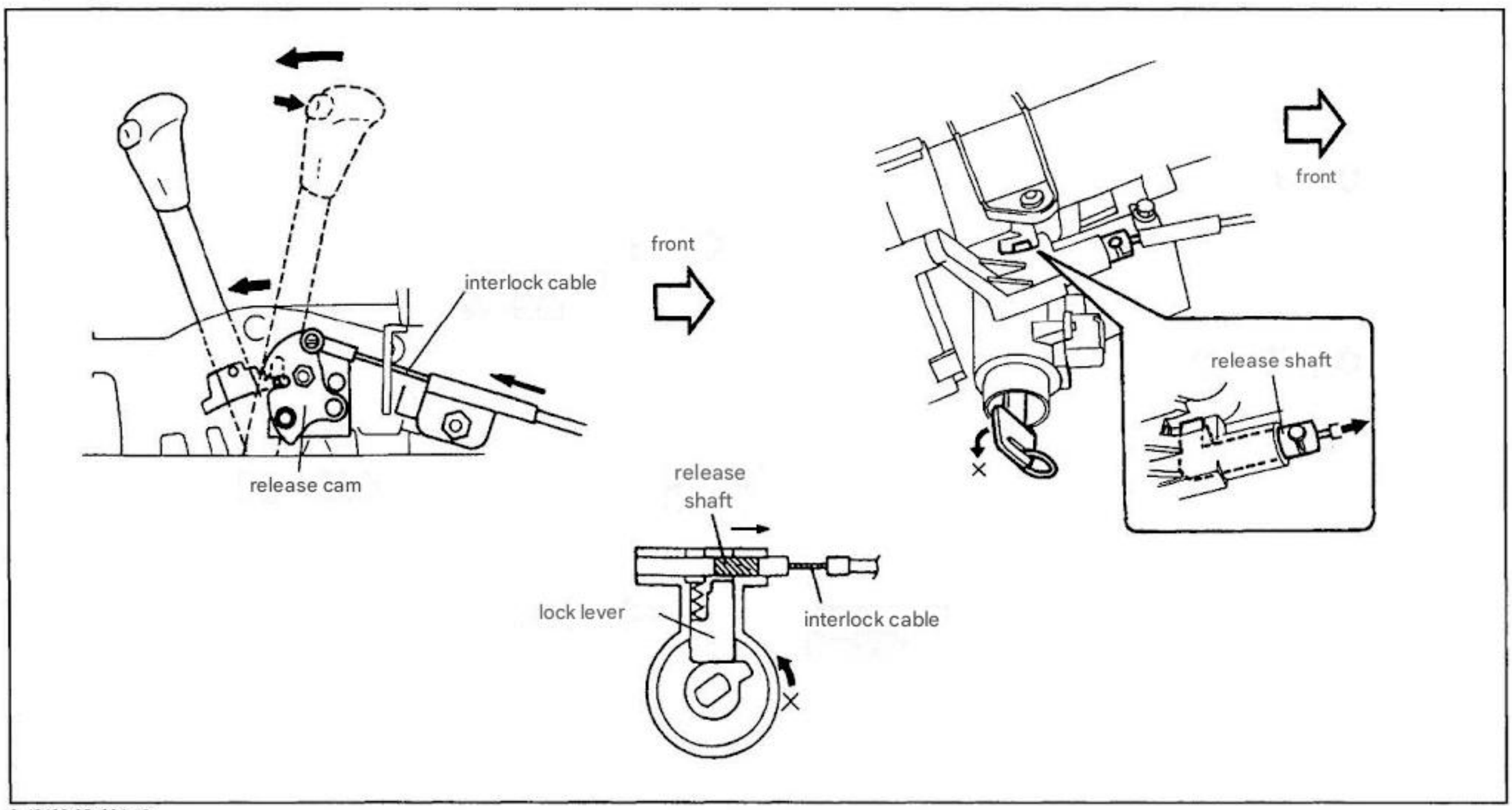
Machine Translated by Google

key interlock mechanism

Key lock status

When the selector lever is not in range, the release cam rotates counterclockwise, the interlock cable is pulled, and the release shaft is extended.

This fixes the lock lever and prevents the ignition key from being rotated from the ACC position to the LOCK position.

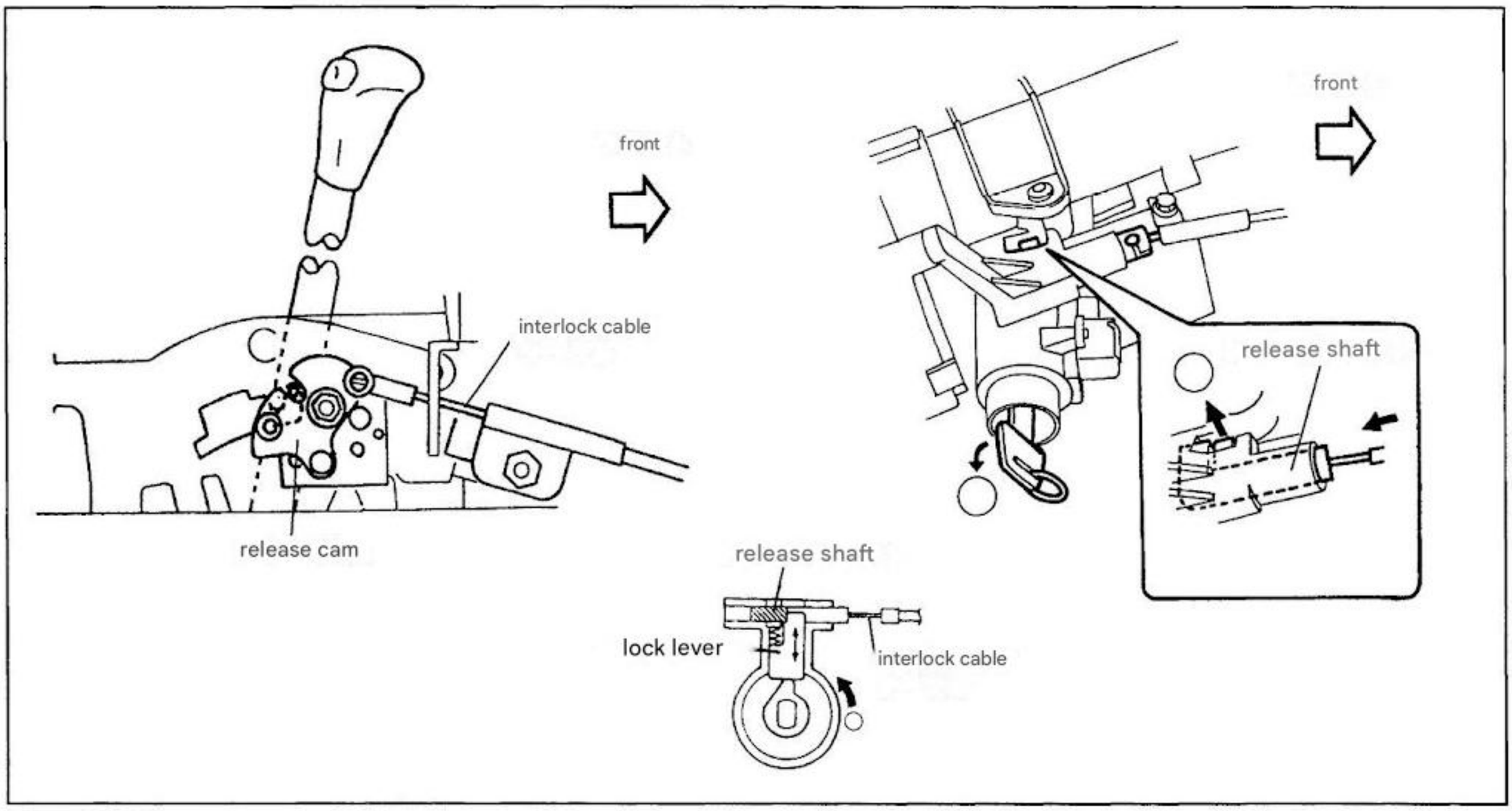


2-48406-2B-004-10

Key unlocked state

When the selector lever is in the arrange position, the release cam rotates clockwise, pushing the interlock cable and returning the release shaft to its original position.

Therefore, the lock lever becomes free and the ignition key can be rotated from the ACC position to the LOCK side.



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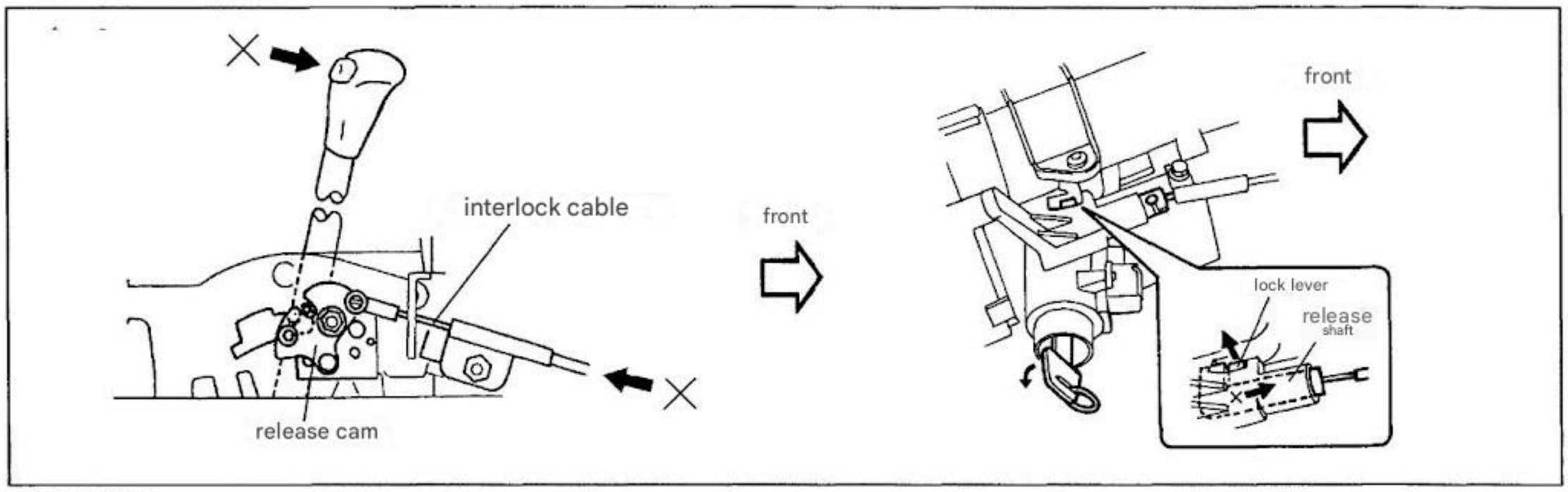
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shift lock mechanism

Shift lock activation-1

When the ignition key is in the LOCK position, the lock lever moves upward and the release shaft is locked.

This locks the rotation of the release cam and restricts the pressing of the selector lever button (detent pin lock state), fixing the selector lever in the range.

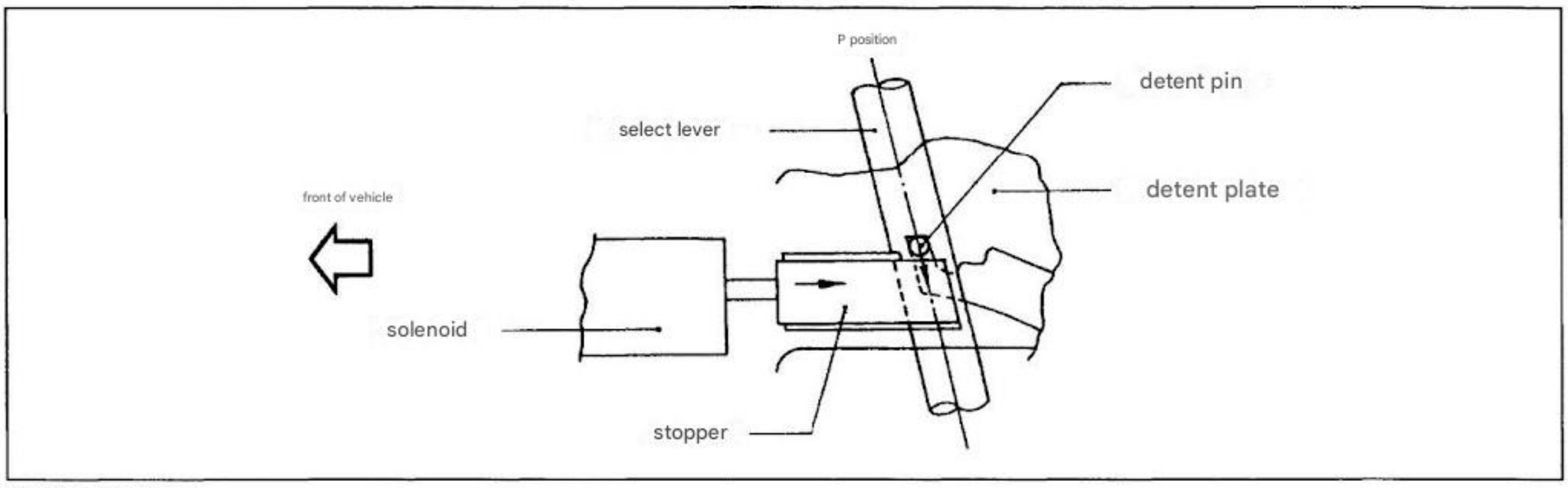


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Shift lock activation-2

When the ignition key is in the ON position and the brake pedal is not depressed, the solenoid is energized (ON).

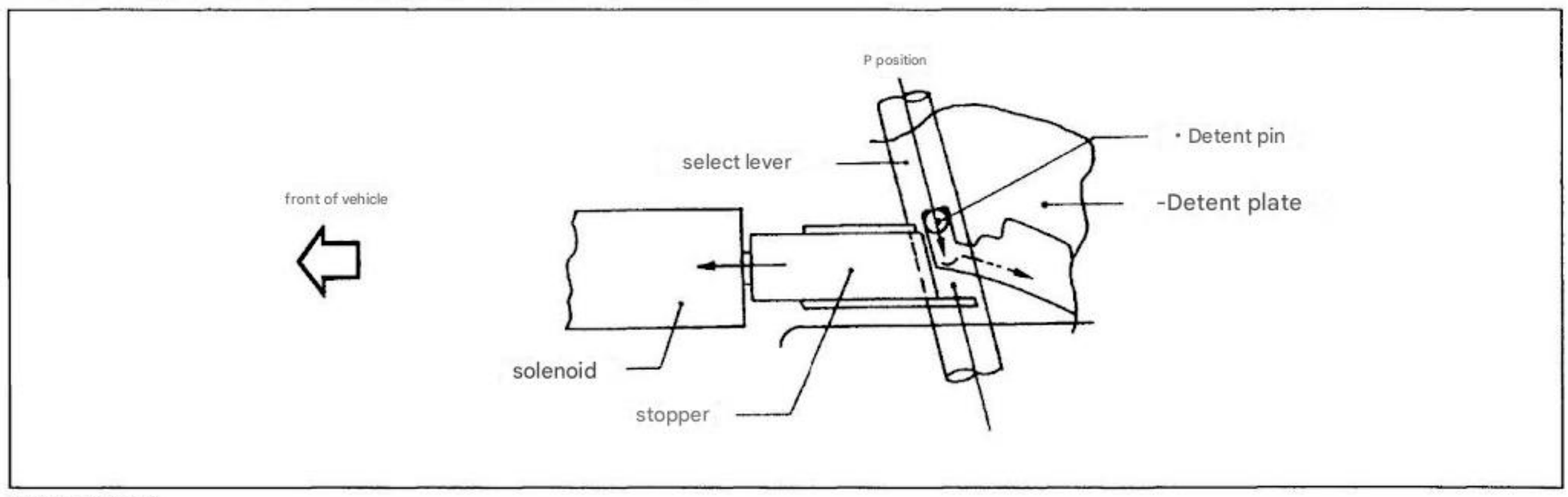
When the solenoid is turned ON, the stopper connected to the solenoid is pushed to the right, stopping the movement of the detent pin and fixing the selector lever in the range.



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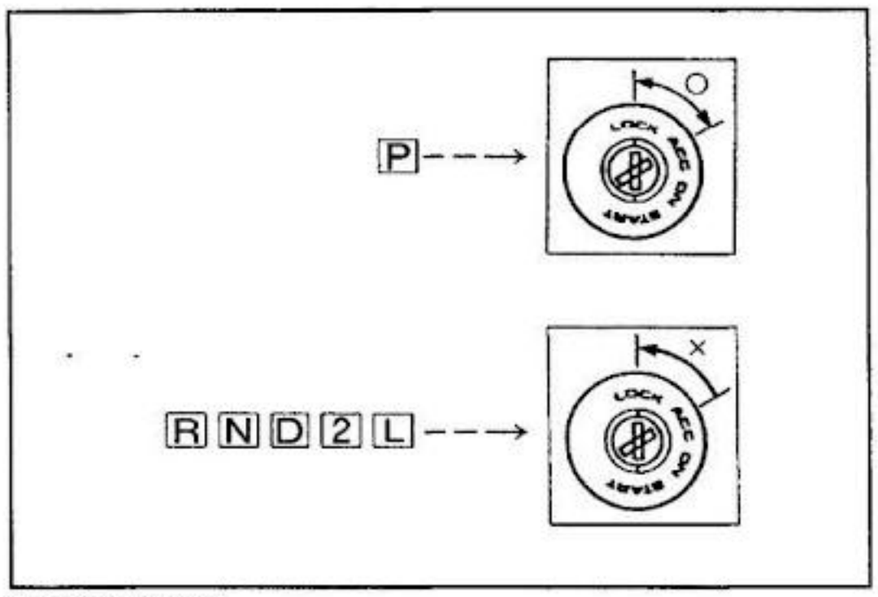
shift lock release

When the ignition key is in the ON position and the brake pedal is depressed, the solenoid is de-energized. When the solenoid is OFF, the stopper retracts to the left, so the detent pin is no longer fixed and the shift lever can be freely operated. When the gear is outside the range, the shift switch stops the power to the solenoid, allowing the selector lever to be operated regardless of the state of the brake pedal.

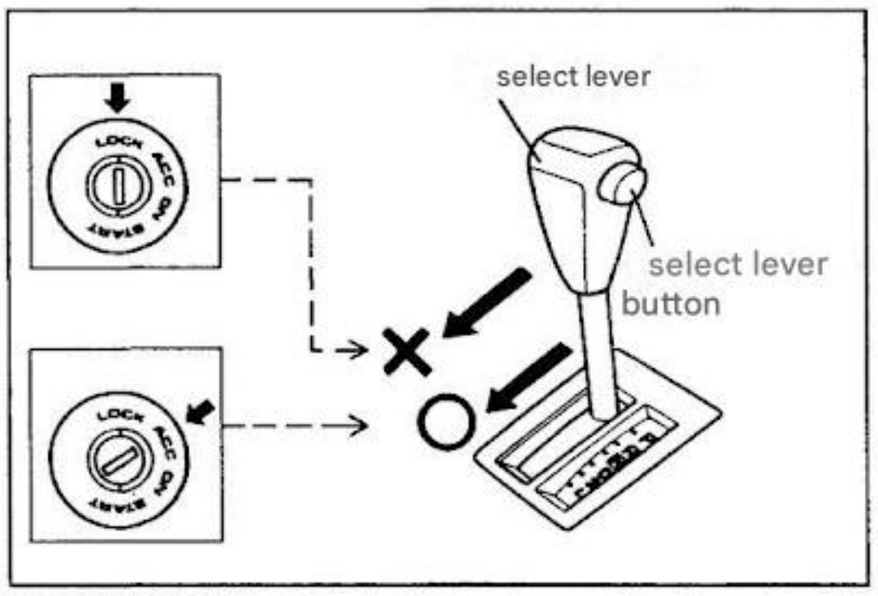


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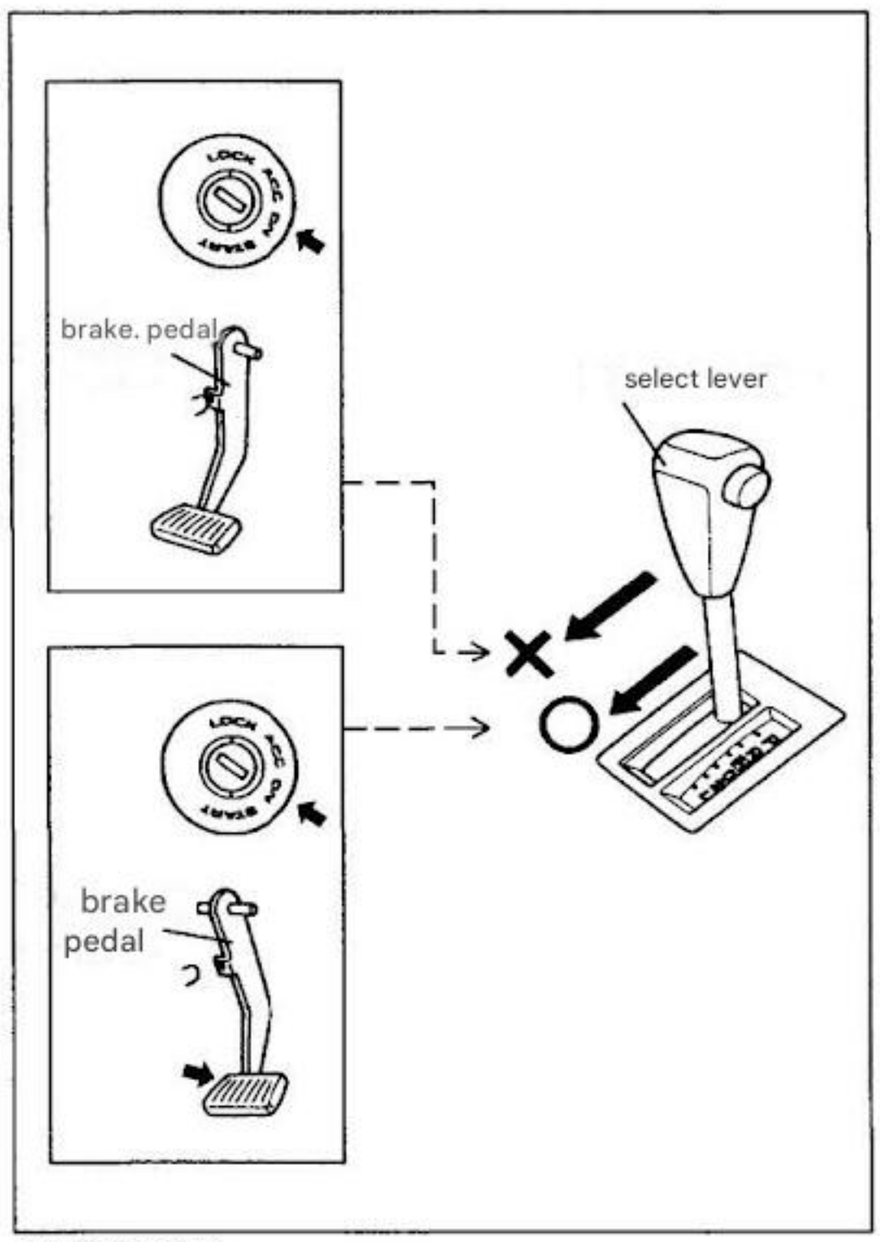
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2-48406-2B-006-30

Shift lock mechanism with key interlock

Inspection

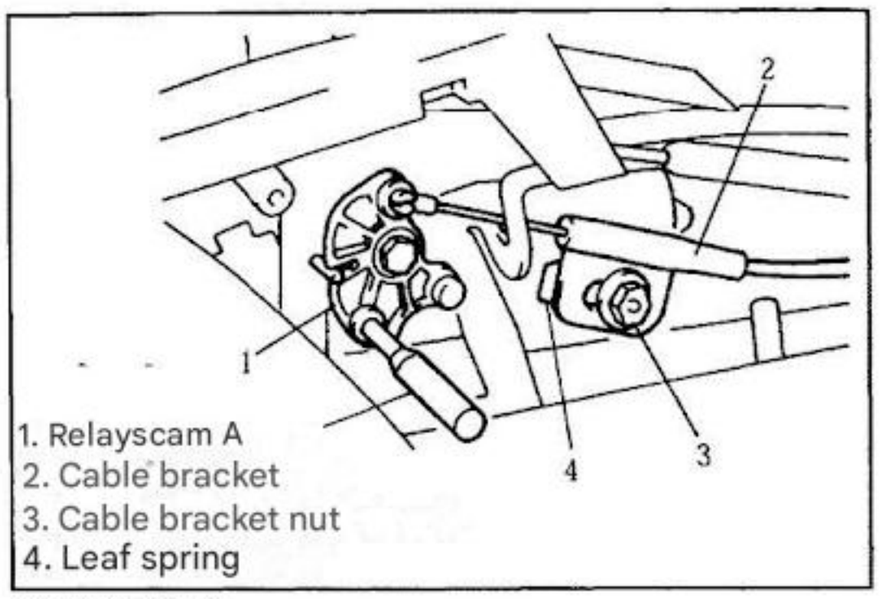
key interlock mechanism

1. When the selector lever is in range, check that the ignition key can be turned freely from LOCK to ON.
2. When the selector lever is in any position other than P range, make sure that the ignition key cannot be turned from ACC to LOCK.

shift lock mechanism

1. When the ignition key is in the LOCK position, check that the selector lever button is locked and that it is not possible to shift from one range to another.
2. When the ignition key is in the ACC position, check that the selector lever button is free and that you can shift from the range to another range.
3. Check that the selector lever cannot be shifted from the range to another range when the ignition key is in the ON position and the brake pedal is not depressed.
4. When the ignition key is in the ON position and the brake pedal is depressed, check that the selector lever can be shifted to a range other than the arrange position.

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1. Relayscam A
2. Cable bracket
3. Cable bracket nut
4. Leaf spring

2-48406-2B-007-10

adjustment

1. Remove the console box and loosen the cable bracket nut.

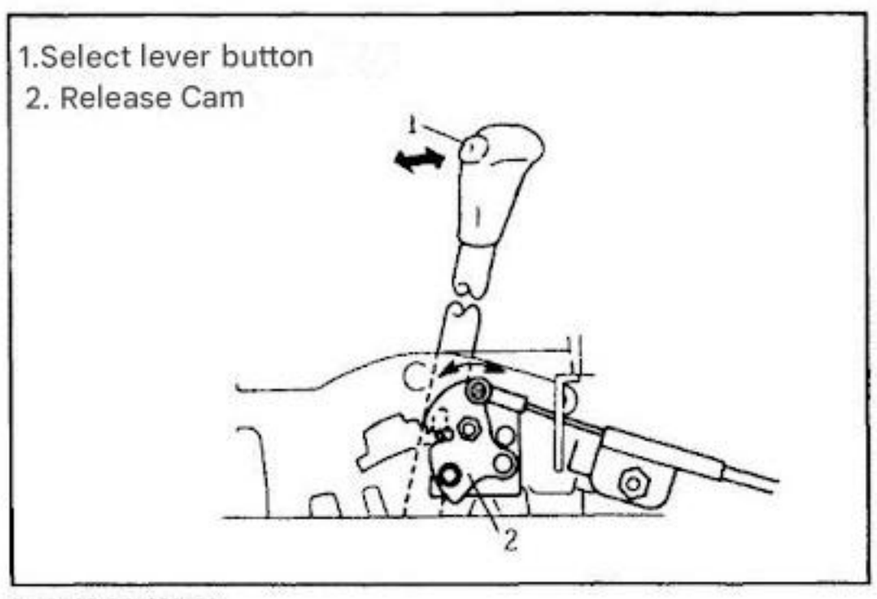
2. Turn the ignition key to the ACC position.

3. With the selector lever in the range position and the selector lever button pressed, use the special tool to secure the release cam.

4. Adjust the cable bracket to a position where there is no play in the interlock cable, and then tighten the cable bracket nut.

Special tool A: 09925-78210 (nominal diameter 6mm)

Tightening torque: 13Nm (130kgf.cm)



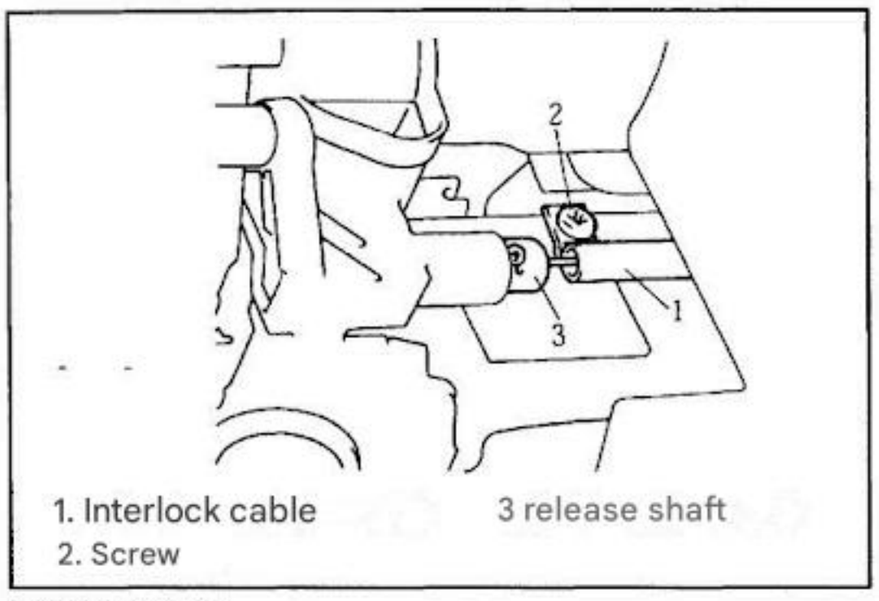
1.Select lever button
2. Release Cam

2-48406-2B-007-20

5. Remove the special tool, and press the selector lever button to check that the release cam rotates smoothly to the left.

6. Install the console box.

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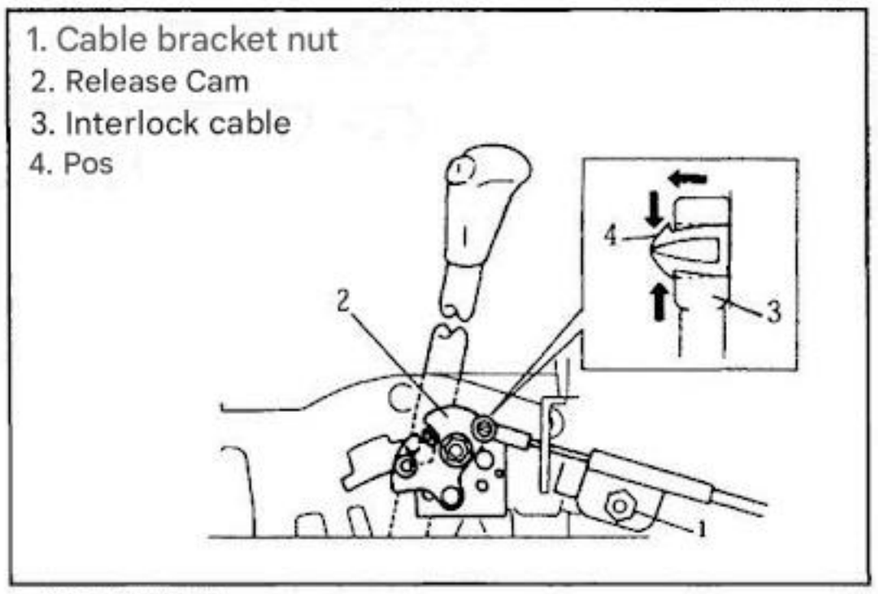
1. Interlock cable 3 release shaft
2. Screw

2-48406-2B-008-10

key interlock cable

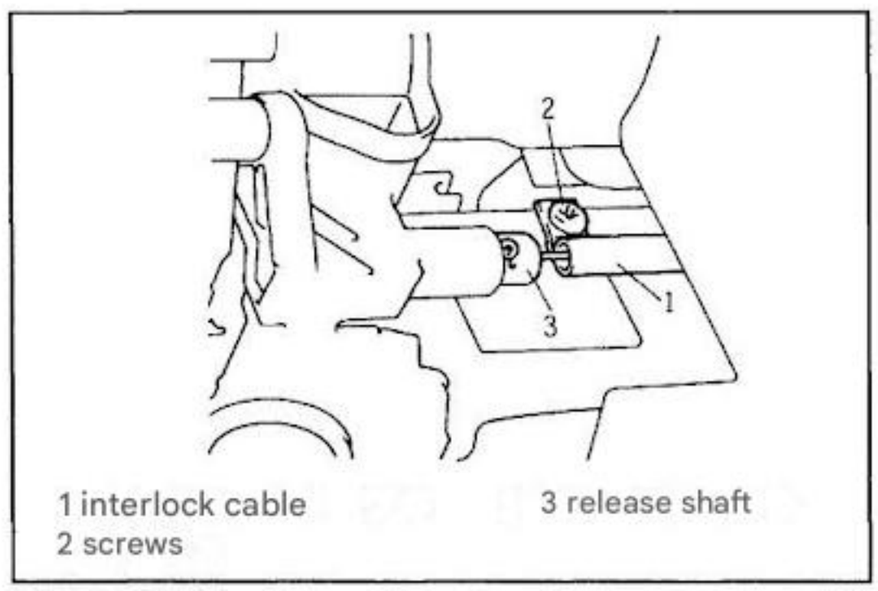
Removal

1. Remove the steering column cover.
2. Remove the steering column mounting bolts (6 pcs.) to free the steering column.
3. Turn the ignition key to the ACC position and shift the selector lever to R range.
4. Remove the interlock cable fixing screw, and remove the cable from the release shaft.
5. Remove the console box.
6. Move the selector lever to the range position and remove the cable bracket nut.
7. Retract the boss and remove the interlock cable from the release cam.



1. Cable bracket nut
2. Release Cam
3. Interlock cable
4. Pos

2-48406-2B-008-20



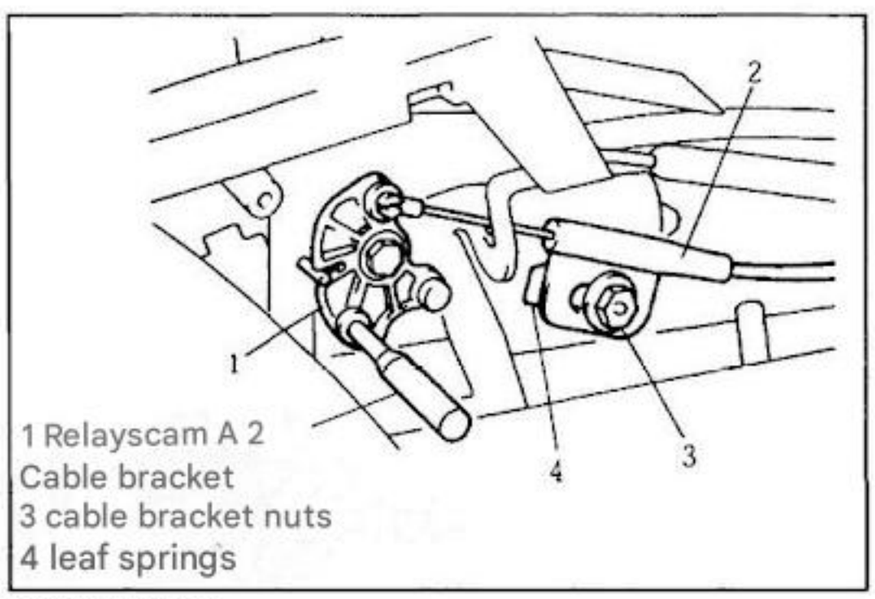
1 interlock cable 3 release shaft
2 screws

2-48406-2B-008-30

Installation

1. With the ignition key in the ACC position, attach the interlock cable to the release shaft, and then tighten the mounting screw to the specified torque.

Tightening torque: 2.2Nm (22kgf.cm)



1 Relayscam A 2
Cable bracket
3 cable bracket nuts
4 leaf springs

2-48406-2B-008-40

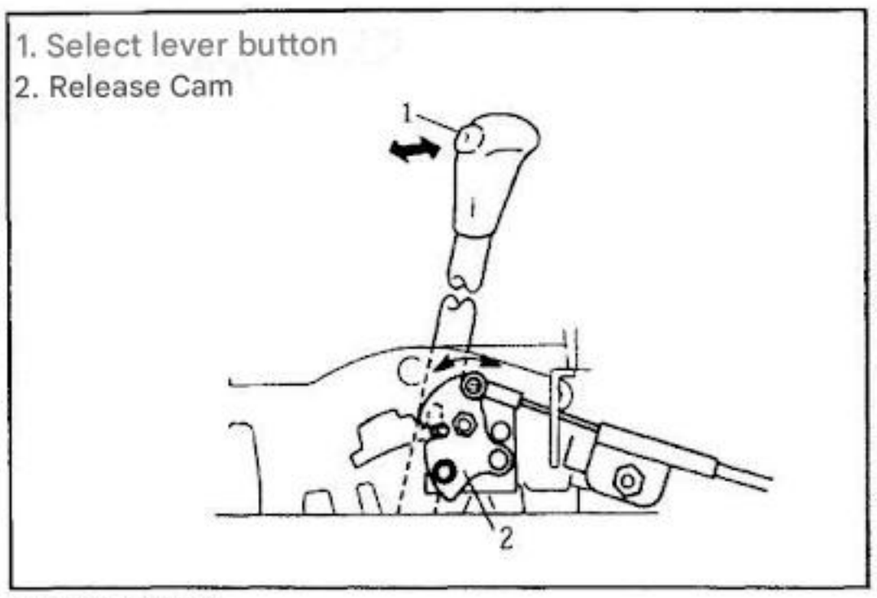
2. With the selector lever in the range position and the selector lever button pressed, use the special tool to secure the release cam.

Special tool A (spring pin remover): 09925-78210

3. Attach the interlock cable to the release cam, adjust the cable bracket to a position where there is no play in the interlock cable, and tighten the cable bracket nut to the specified torque.

Tightening torque: 13Nm (130kgf.cm)

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2-48406-2B-009-10

4. After assembly, remove the special tools and check the following items.

- Check that the release cam rotates smoothly to the left when you press the selector lever button.
- When the ignition key is left in the ACC position and the selector lever is moved to a position other than R range (e.g., R range), check that the key cannot be turned from ACC to LOCK (key interlock).

- When you return the selector lever to the arrange position and turn the key to the LOCK position, check that the selector lever button cannot be pressed (shift lock).

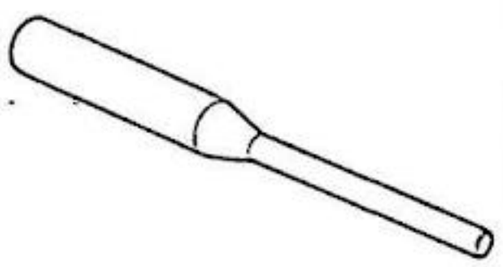
Note: If the above inspection reveals any defects, reassemble the cable bracket following the assembly sequence as this may be due to improper adjustment of the position.

6. Install the console box, steering column and column cover.

Machine Translated by Google

Special tools list

A



09925-78210
spring pin remover

2-48406-2B-010-10

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Section 2D

transfer

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overview

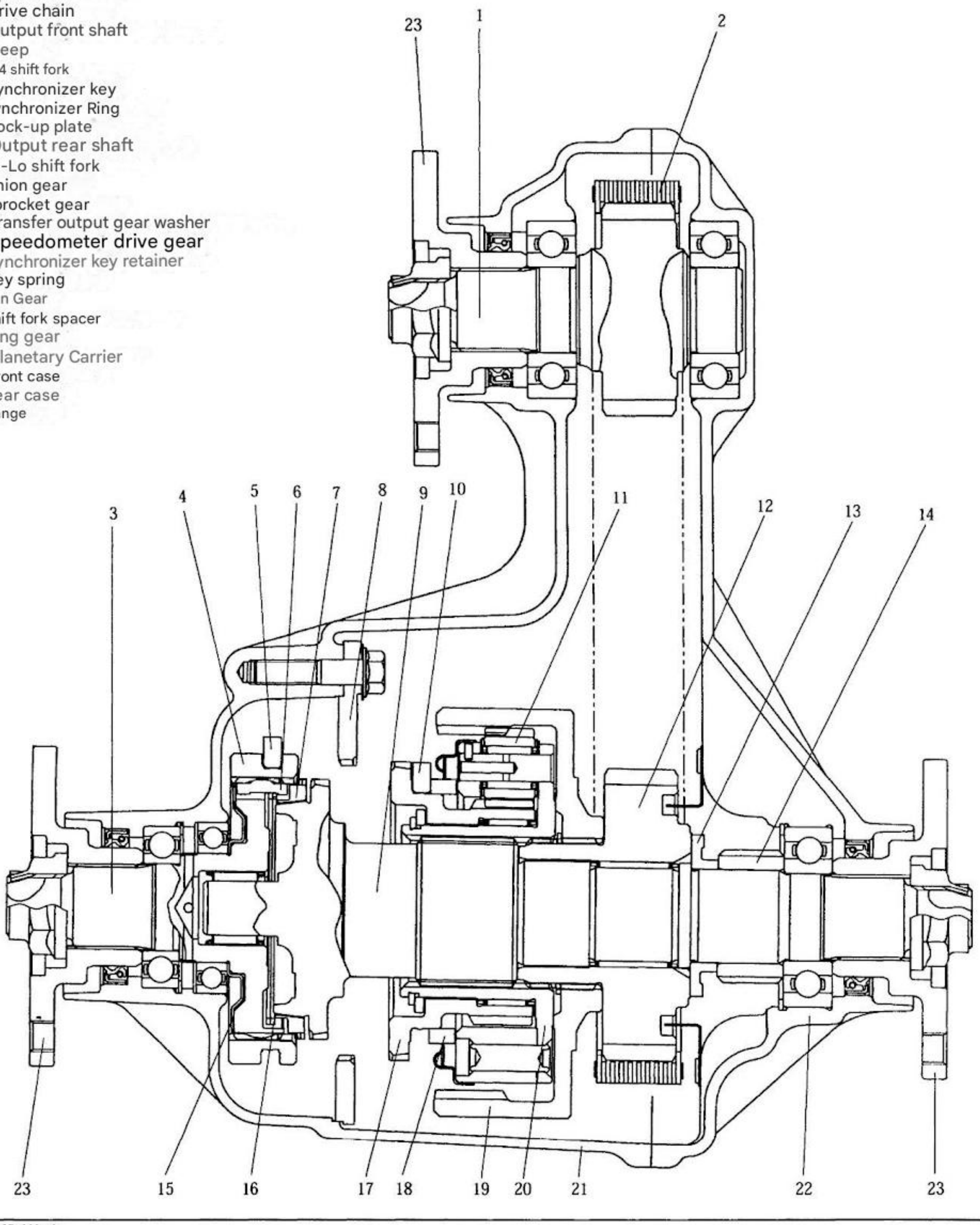
A synchromesh mechanism has been added to the 2H 4H switching section of the transfer case of passenger vehicles.

The added synchromesh mechanism, like that of a manual transmission, consists of a synchronizer ring, synchronizer key, key spring, etc.

・By combining it with the air locking hub, it is now possible to switch between 2H and 4H while riding.
(See Section 4B)

Note: There are no changes to commercial vehicles.

1. Input shaft
2. Drive chain
3. Output front shaft
4. Sleep
5. 2-4 shift fork
6. Synchronizer key
7. Synchronizer Ring
8. Lock-up plate
9. Output rear shaft
10. Hi-Lo shift fork
11. Pinion gear
12. Sprocket gear
13. Transfer output gear washer
14. Speedometer drive gear
15. Synchronizer key retainer
16. Key spring
17. Sun Gear
18. Shift fork spacer
19. Ring gear
20. Planetary Carrier
21. Front case
22. Rear case
23. Flange



2-48406-2D-002-10

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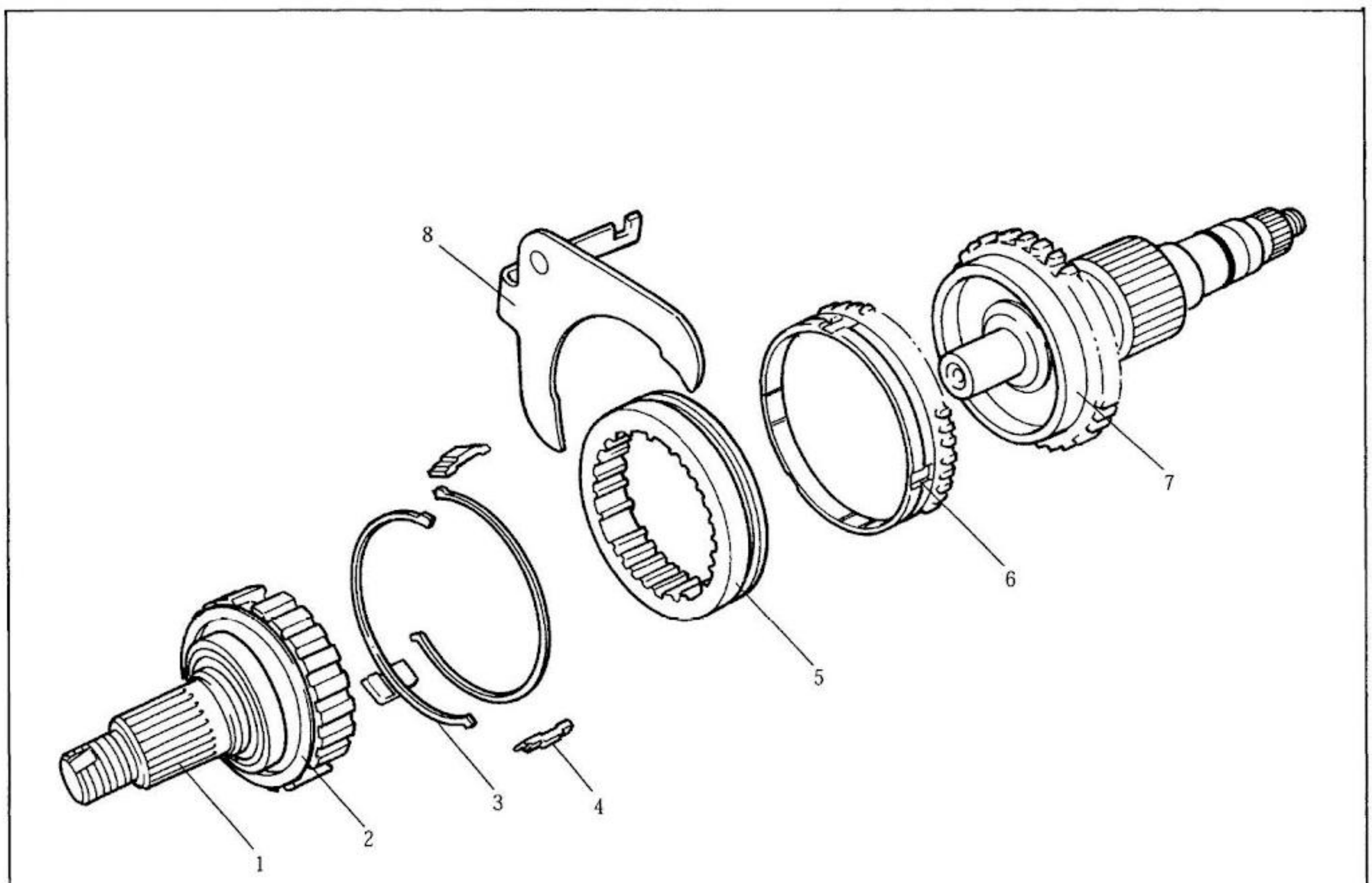
Main specifications

gear ratio	shift position	gear ratio
	2H	1.320 33/25
	4H	1.320 33/25
	N	—— ——
	4L	2.123 33/25× (59+97) /97
speedometer gear ratio		0.263 (5 : 19)

transfer oil	
Recommended oil	Suzuki 4-wheel gear oil 75W-90/GL4
Capacity(ℓ)	0.9
Replacement period	Every 40,000km ``In severe conditions: Every 20,000km

synchromesh mechanism

The synchromesh mechanism consists of a synchronizer ring, a synchronizer key, a key spring, a sleeve, and a synchronizer key retainer.



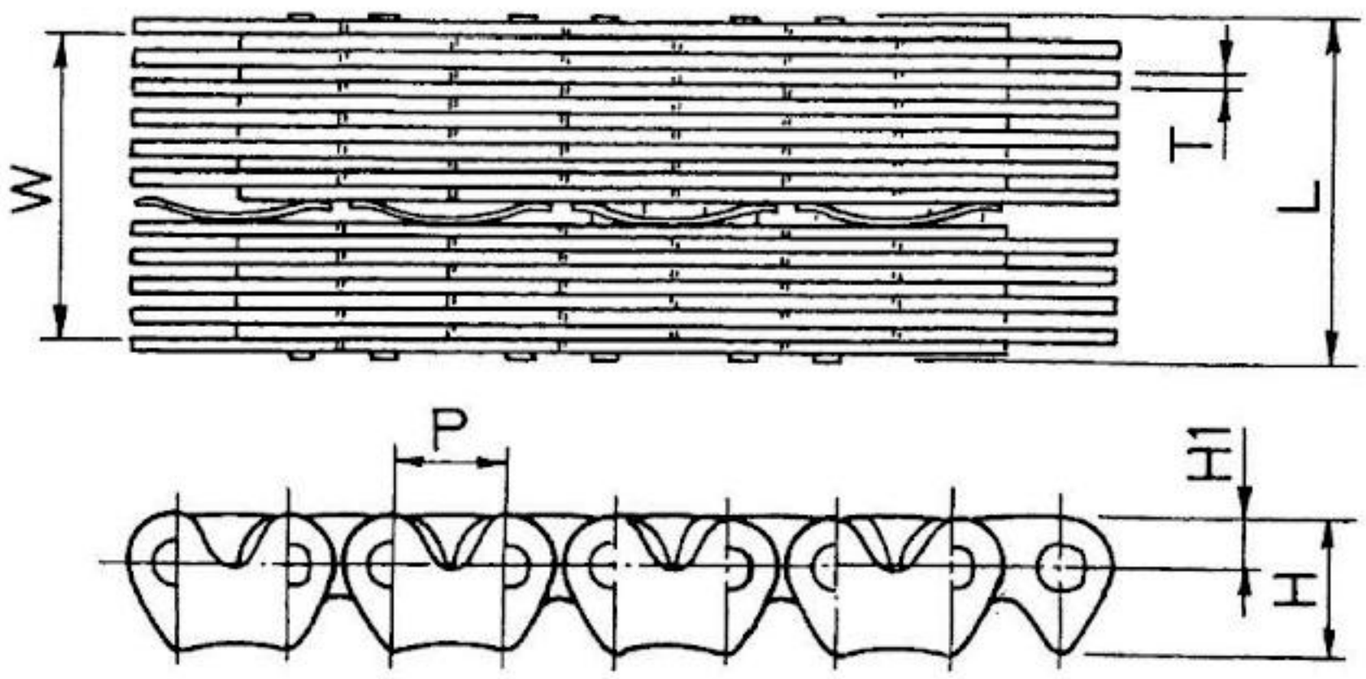
1. Output front shaft 2. Synchronizer key retainer
3. Key spring
4. Synchronizer key
5. Sleep
6. Synchronizer Ring
7. Output rear shaft
8. 2-4 shift fork

2-48406-2D-003-10

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drive chain

The drive chain is a silent chain that is quieter than the previous model, and spring links are fitted around the entire circumference between each link to improve strength and reduce vibration in the direction of power transmission.



2-48406-2D-004-10

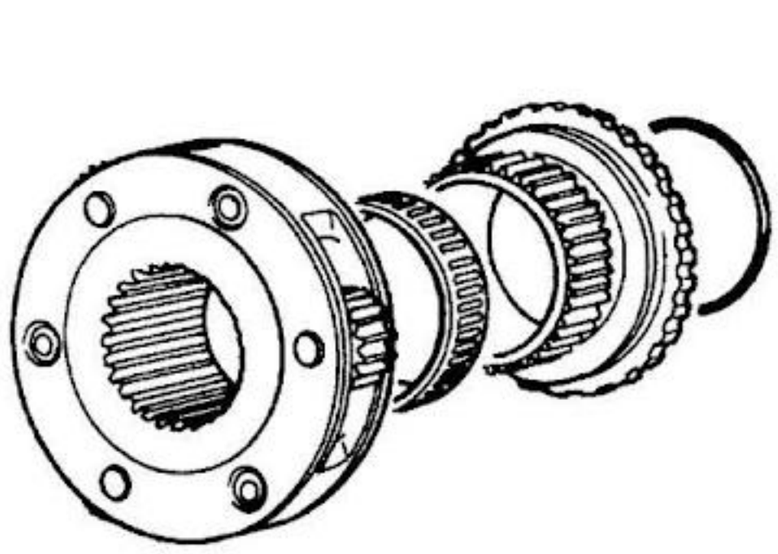
specification

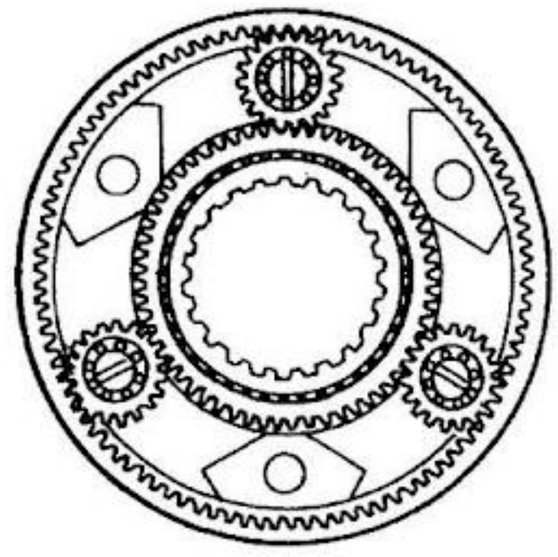
Chain model	pitch P	chain width (Name)	Includes link count guide	Number of spring links (plate thickness)	Guide inner width W	pin length L	link thickness T	link height H	link height H1
89HV304RCF	9.525	1 inch	8×9	1 (0.55)	24.86	28.67	1.55	11.17	4.38

Planetary Gear Unit

The planetary gear unit consists of a planetary carrier, pinion gears and a sun gear, and there are three pinion gears.

The planetary gear unit is moved by the Hi-Lo shift fork to switch between 4H N and 4L.





Number of teeth on sun gear: 59
Pinion gear: 19
Ring gear: 97

2-48406-2D-004-20

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Power transmission path

2H shift

During a 2H shift, the sleeve on the output front shaft and the planetary gear unit are in the positions shown in the figure.

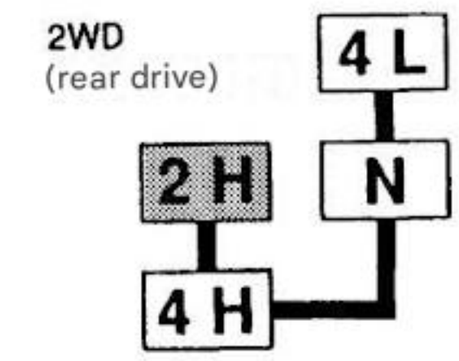
The rotation input from the input shaft is transmitted from the sprocket gear (25T) on the input shaft through the drive chain to the sprocket gear (33T) on the output rear shaft.

This gear is connected by a planetary carrier that meshes with the splines on the output rear shaft, and the rotation of the gear is transmitted to the output rear shaft.

Since the sleeve on the output front shaft is not engaged with the output rear shaft, the rotation of the output rear shaft is not transmitted to the output front shaft, resulting in 2WD operation.

2 H

Gear shift control lever position



2-48406-2D-005-10

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During 4H shift

When shifting to 4H, the planetary carrier on the output rear shaft remains in the same position as when it was in 2H, but the sleeve on the output front shaft moves to the position shown in the diagram.

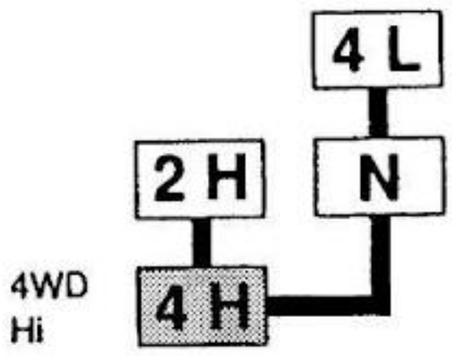
The rotation input from the input shaft is transmitted, like the 2H, from the input shaft sprocket gear (25T) via the drive chain to the output rear shaft sprocket gear (33T).

This gear is connected by a planetary carrier that meshes with the splines on the output rear shaft, and the rotation of the gear is transmitted to the output rear shaft.

The sleeve on the output front shaft is engaged with the output rear shaft, so the rotation of the output rear shaft is transmitted to the output front shaft, resulting in 4WD operation.

4 H

Gear shift control lever position



2-48406-2D-006-10

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At N shift

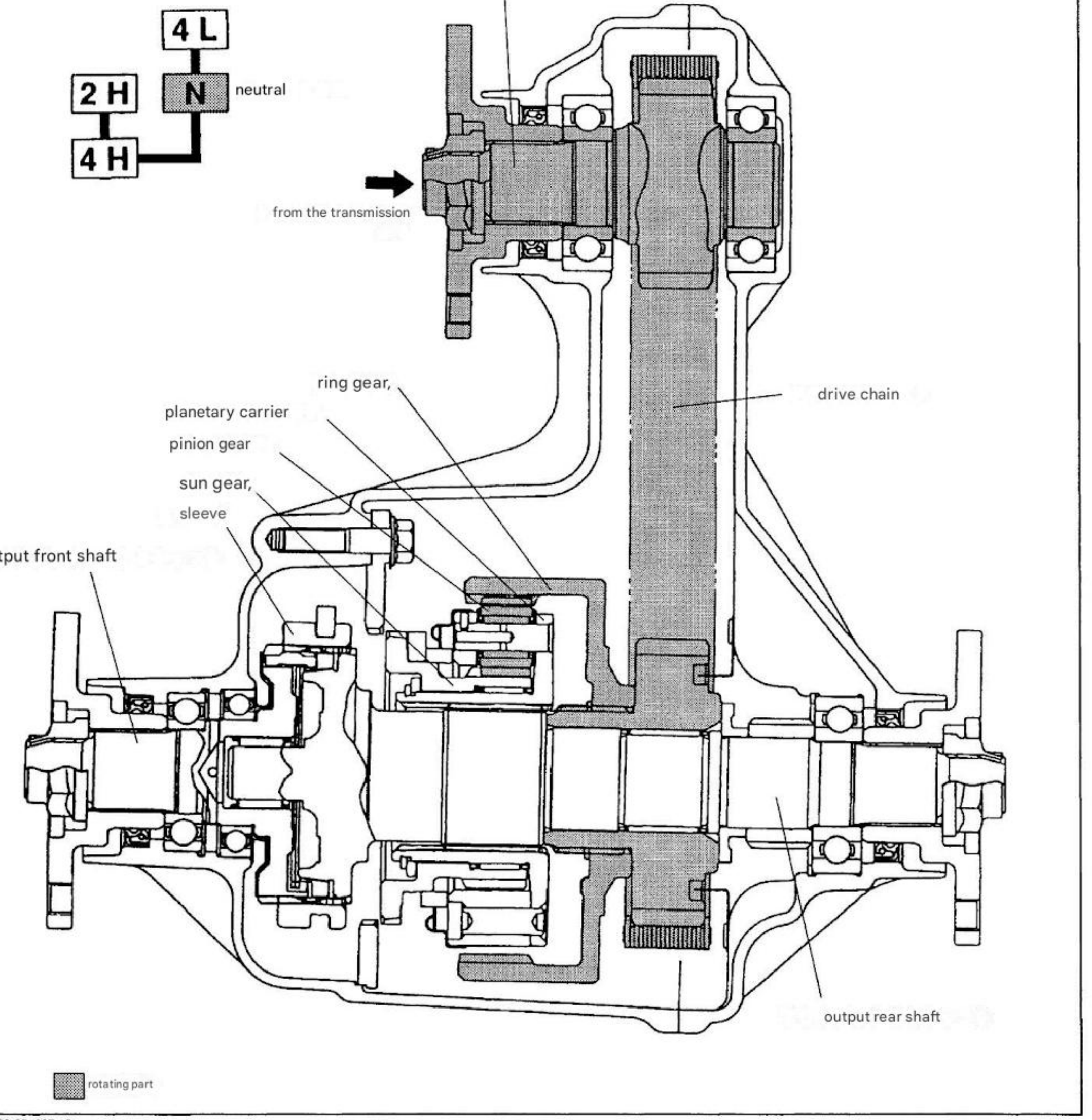
When shifting into N, the sleeve on the output front shaft remains in the same position as in 4H, and the planetary gear unit on the output rear shaft moves to the position shown in the illustration.

The rotation input from the input shaft is transmitted via the sprocket gear (25T) on the input shaft to the drive chain and then to the sprocket gear (33T) on the output rear shaft. However, as the planetary gear unit has moved, the connection between the sprocket gear (33T) and the planetary carrier, which was engaged with the splines, is released, and the gear rotation is no longer transmitted to the output rear shaft.

In addition, the sprocket gear (33T) of the output rear shaft is splined and engaged with the ring gear, so the rotation of the sprocket gear is transmitted to the ring gear. However, because the sun gear is not fixed, the pinion gear and sun gear spin freely and the rotation is not transmitted to the planetary carrier.

As a result, no rotation is transmitted to the output rear shaft, resulting in a neutral state.

N



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4L shift

When shifting to 4L, the sleeve on the output front shaft remains in the same position as in 4H, and the planetary gear unit on the output rear shaft moves to the position shown in the illustration.

The rotation input from the input shaft is transmitted from the input shaft sprocket gear (25T) via the drive chain to the sprocket gear (33T) on the output rear shaft.

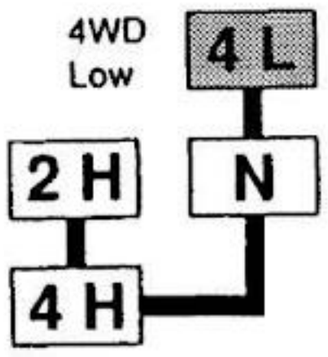
The sprocket gear (33T) of the output rear shaft is splined to the ring gear, and the rotation of the sprocket gear is transmitted to the ring gear.

The sun gear of the planetary gear unit is connected to the lock-up plate by splines, and is fixed in place, so the rotation of the ring gear is transmitted to the planetary carrier via the pinion gears.

The sleeve on the output front shaft is engaged with the output rear shaft, so the rotation of the output rear shaft is also transmitted to the output front shaft, resulting in 4WD operation.

4 L

Gear shift control lever position



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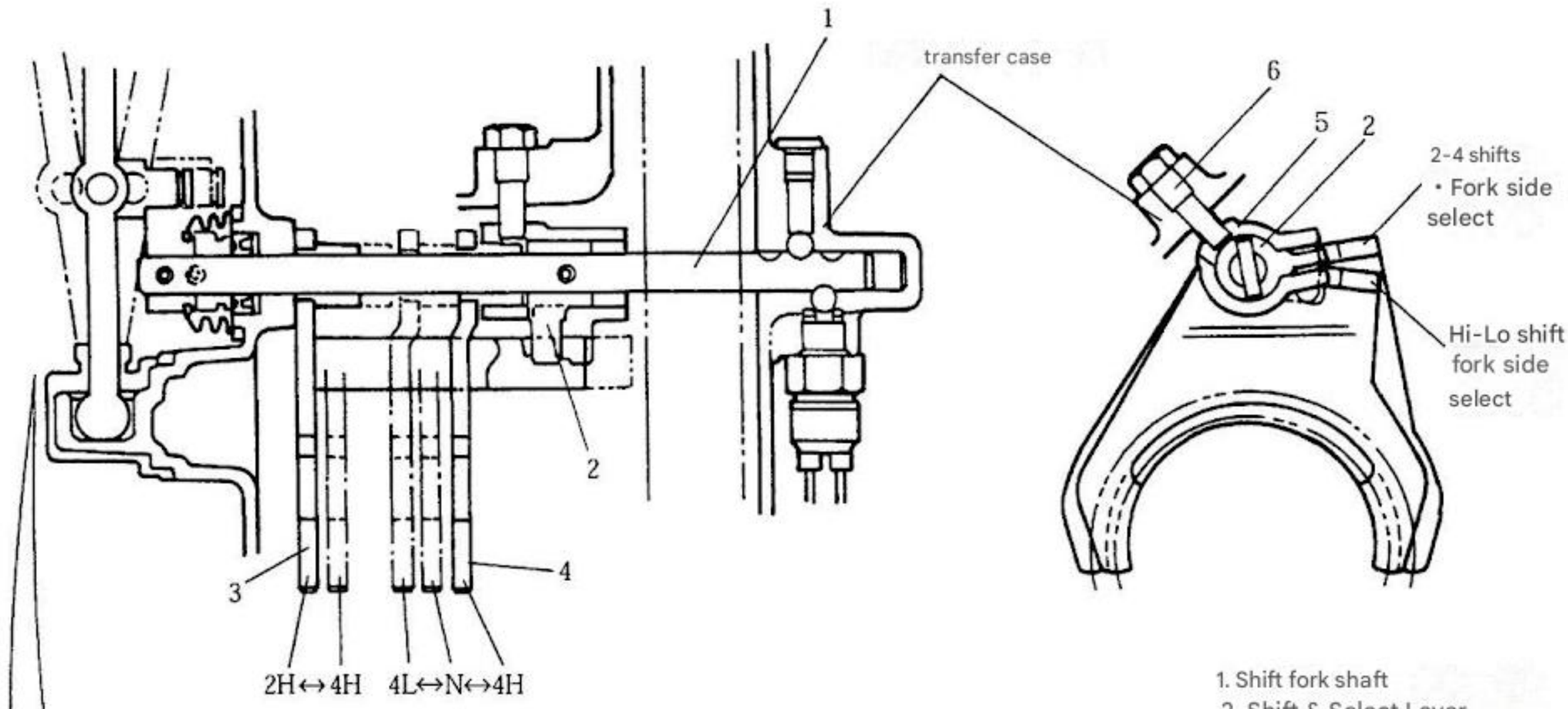
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gear shift control

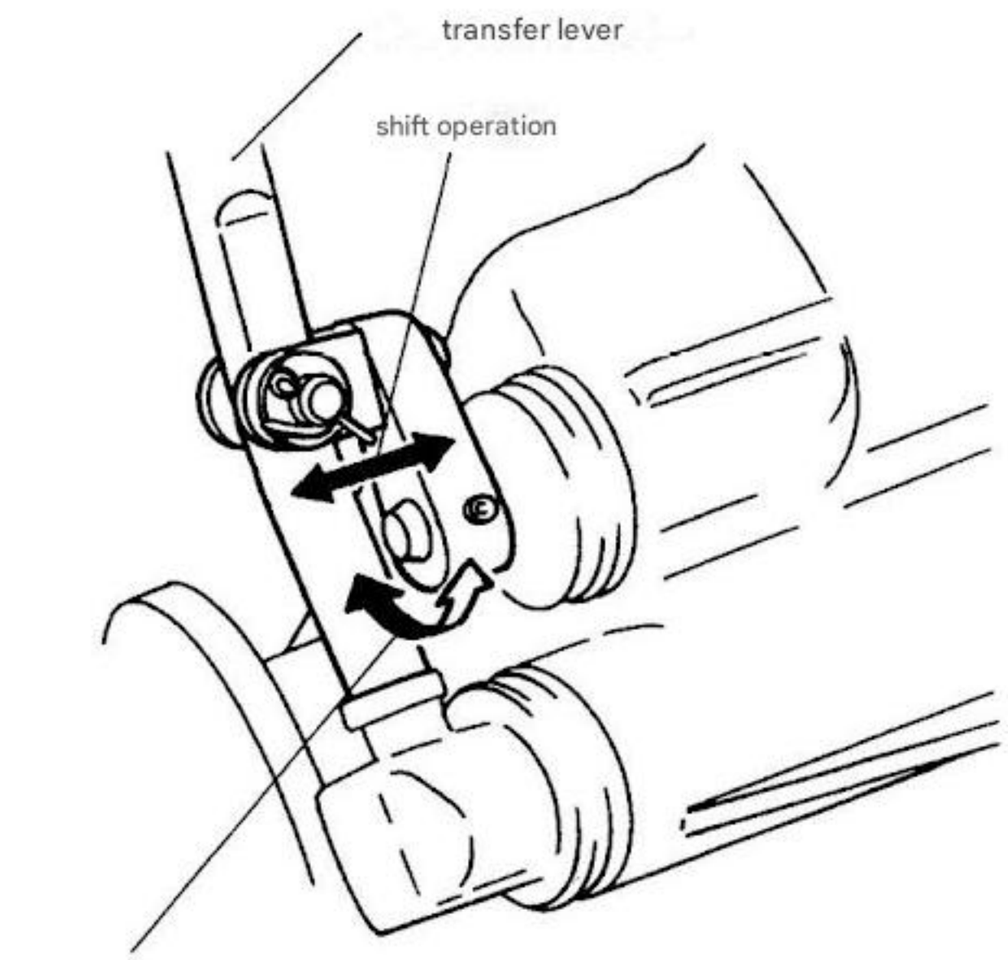
The shift pattern is 2H, 4H, N, 4L, and is operated using the transfer lever located inside the passenger compartment.

The control mechanism consists of a transfer lever, shift fork shaft, shift and select lever, interlock block, shift fork, etc.

A link mechanism is provided on the underside of the transfer lever (transfer side), which moves the shift fork shaft in the axial direction when operating between 2H and 4H, or between 4H and N and 4L, and rotates the shift fork shaft when operating the selector at 4H.



1. Shift fork shaft
2. Shift & Select Lever
3. 2-4 shift fork
4. Hi-Lo shift fork
5. Interlock Block
6. Interlock bolt



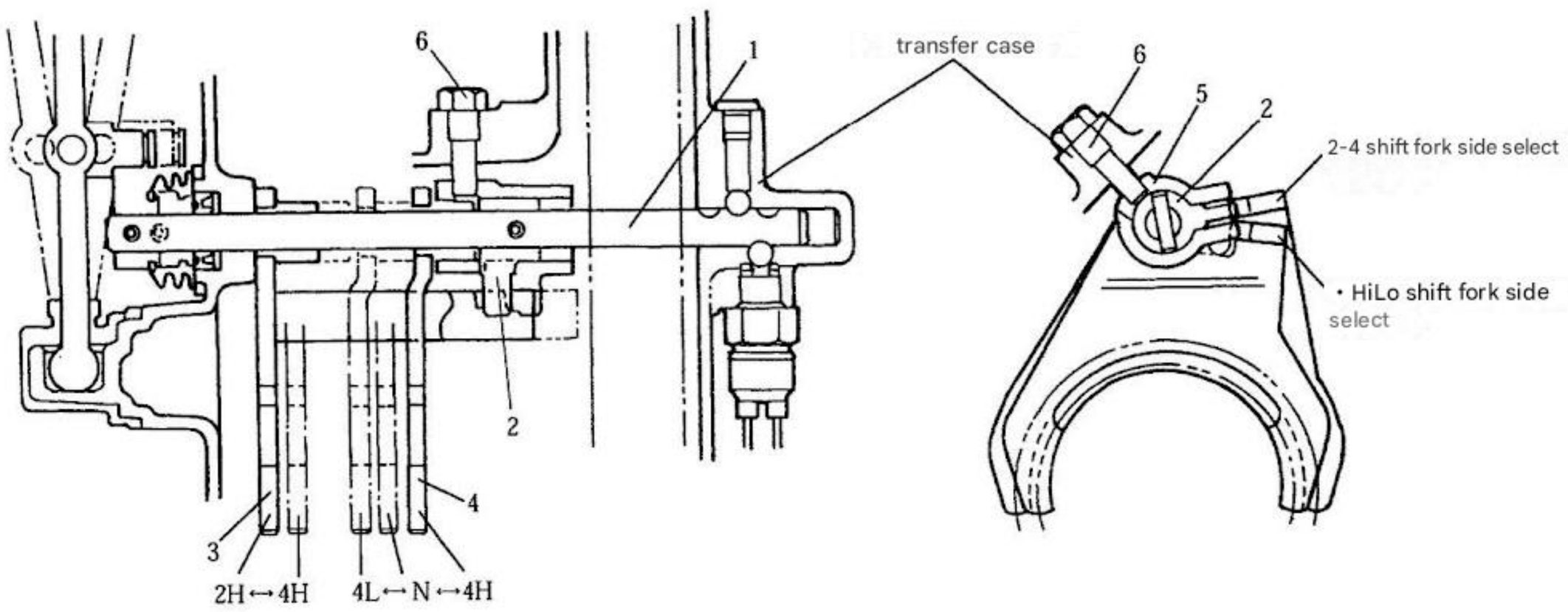
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control mechanism

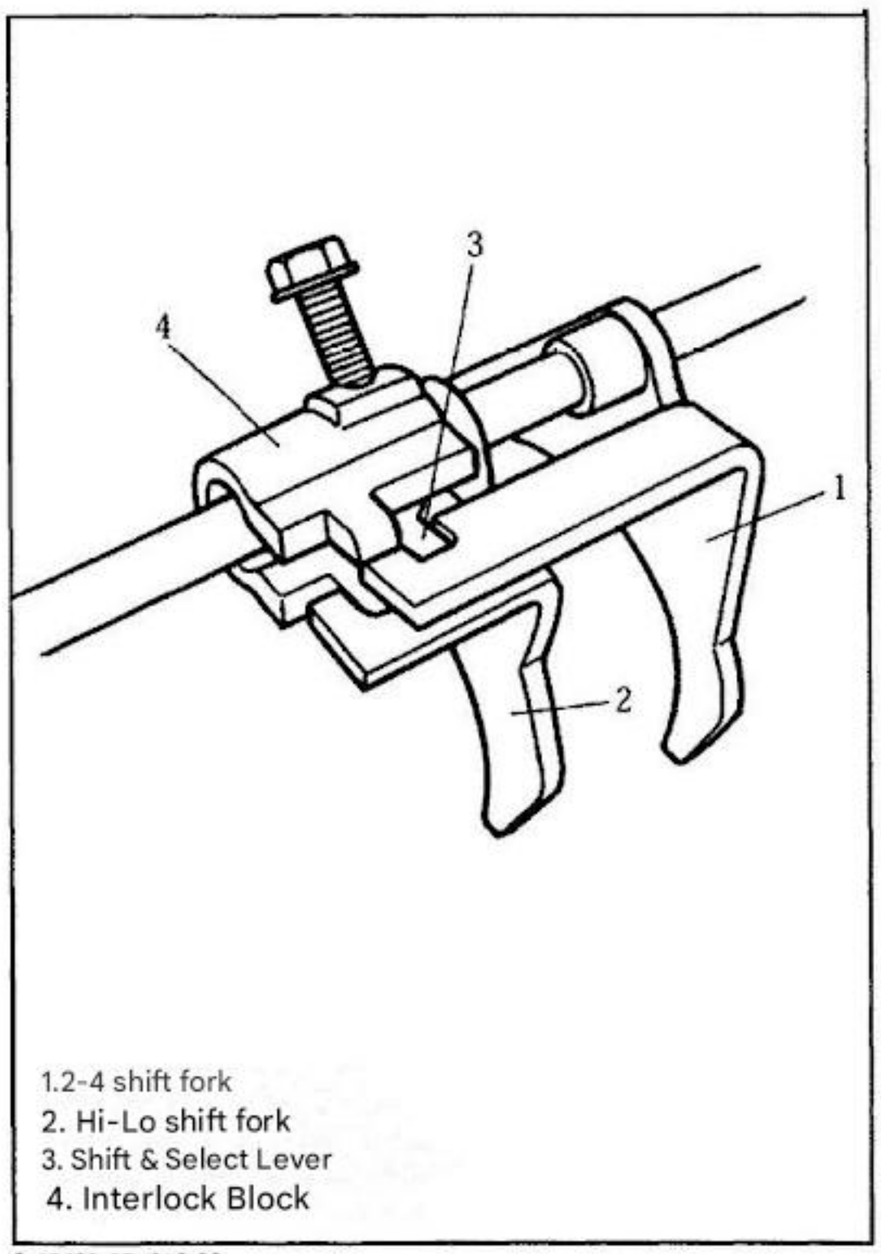
The shift & select lever is fixed with a pin to the shift fork shaft, and the 2-4 shift fork that switches between 2H4H and the Hi-Lo shift fork that switches between 4H N⇔4L pass through them and are able to slide on the shift fork shaft.

The movement of the interlock block is restricted by an interlock bolt attached to the transfer case, and so it cannot move onto the shift fork shaft, but can rotate within the range of the interlock block's oblong hole.
This is the range of select operation at 4H.
In addition, the shift and select lever slides inside the interlock lock.



1. Shift fork shaft
2. Shift & Select Lever
3. 2-4 shift fork
4. Hi-Lo shift fork
5. Interlock Block
6. Interlock bolt

2-48406-2D-010-10



1. 2-4 shift fork
2. Hi-Lo shift fork
3. Shift & Select Lever
4. Interlock Block

2-48406-2D-010-20

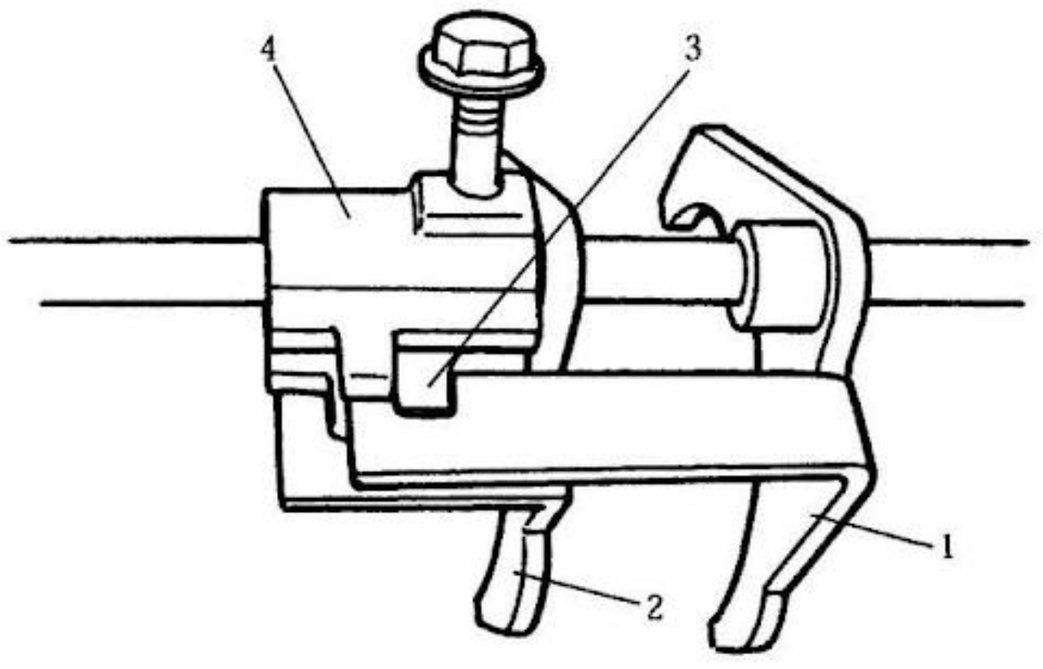
The 2-4 shift fork and the Hi-Lo shift fork have an arm portion, and this arm portion has a groove.
In addition, the interlock block and the shift & select lever are provided with claws that fit into the grooves of the shift fork.

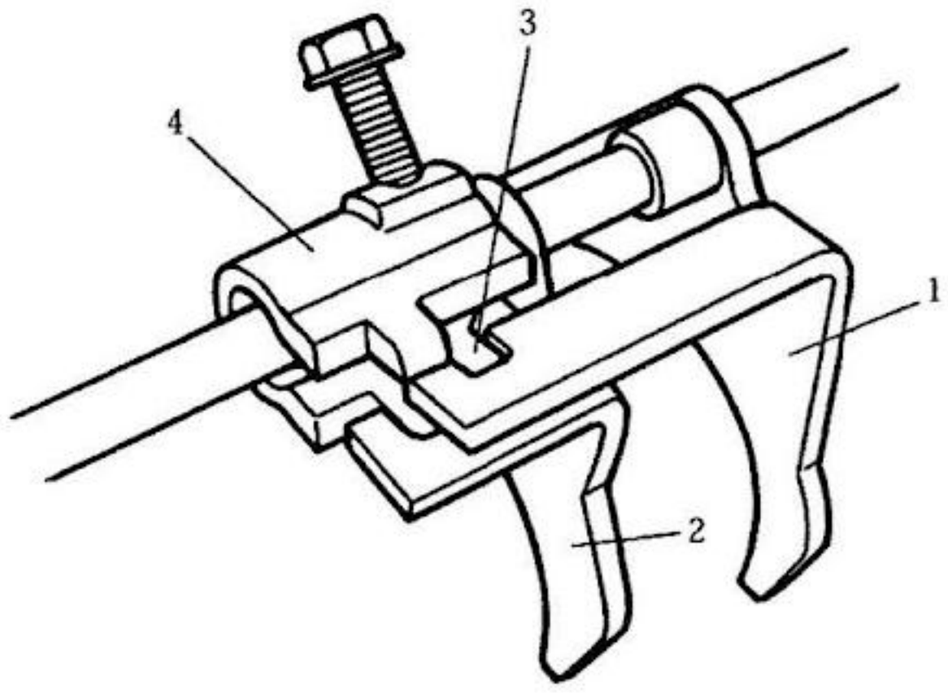
When shifting is performed, the shift fork that engages with the pawl of the shift & select lever is operated.

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During 2H operation

At 2H, the shift fork and the shift & select lever are in the positions shown in the figure. The pawls of the shift & select lever are
It engages with the groove of the 2-4 shift fork and operates the 2-4 shift fork.
The grooves of the Hi-Lo shift fork are engaged with the claws of the interlock block that is fixed to the transfer case, so
it cannot move.



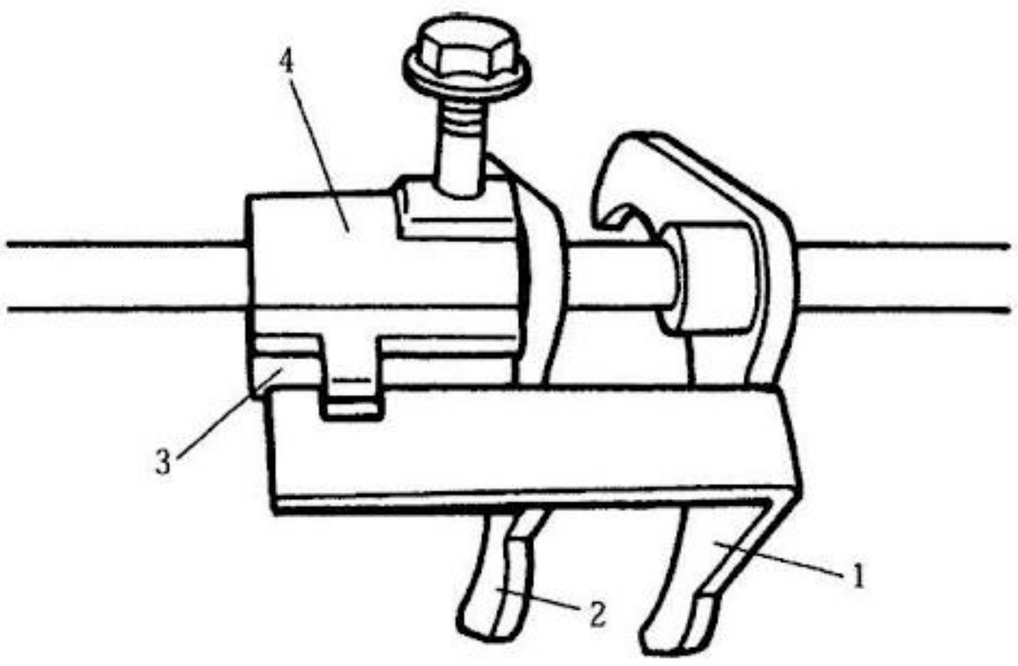


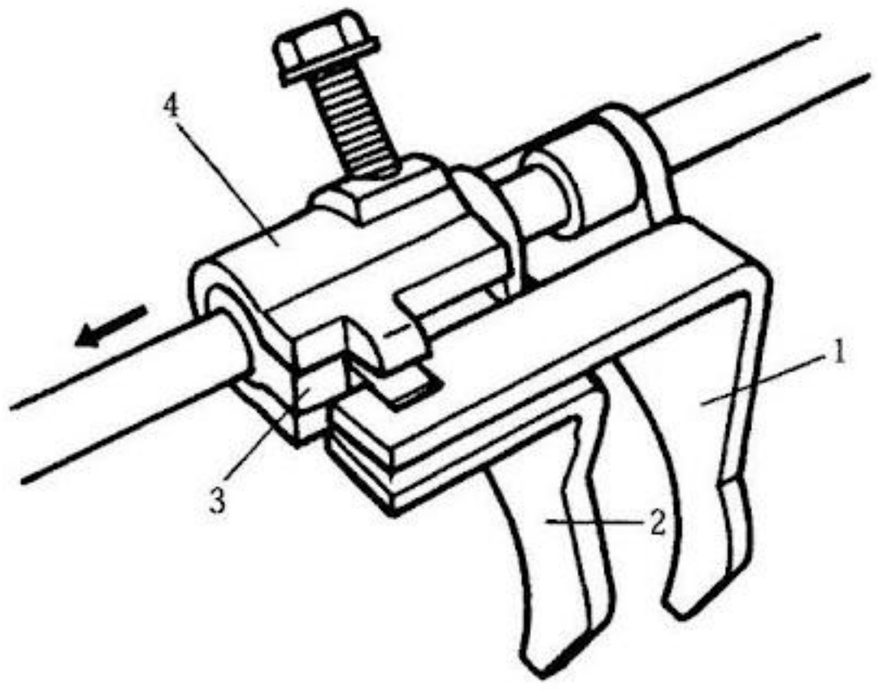
1.2-4 shift fork
2. Hi-Lo shift fork
3. Shift & Select Lever
4. Interlock Block

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During 4H operation

When shifting to 4H, the shift shaft moves axially, moving the 2-4 shift fork that engages with the pawl of the shift & select lever
toward the 4H side.
At this time, the grooves of the 2-4 shift fork and Hi-Lo shift fork, and the pawls of the shift & select lever and interlock block are
in the same position.





1.2-4 shift fork
2. Hi-Lo shift fork
3. Shift & Select Lever
4. Interlock Block

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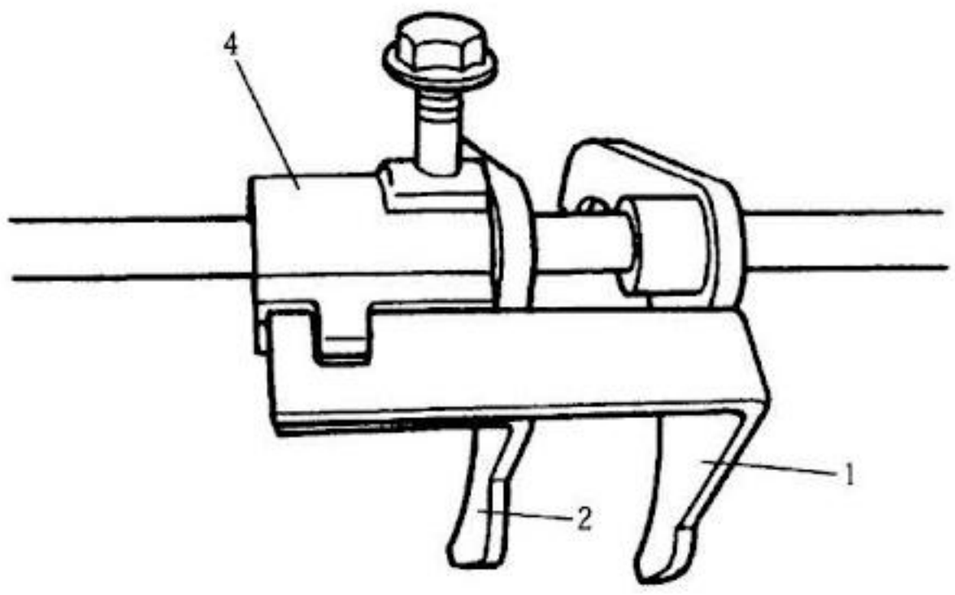
When operating N and 4L

When the shift lever is operated to select N or 4L, the shift shaft rotates, and at the same time, the shift & select lever and interlock block also rotate.

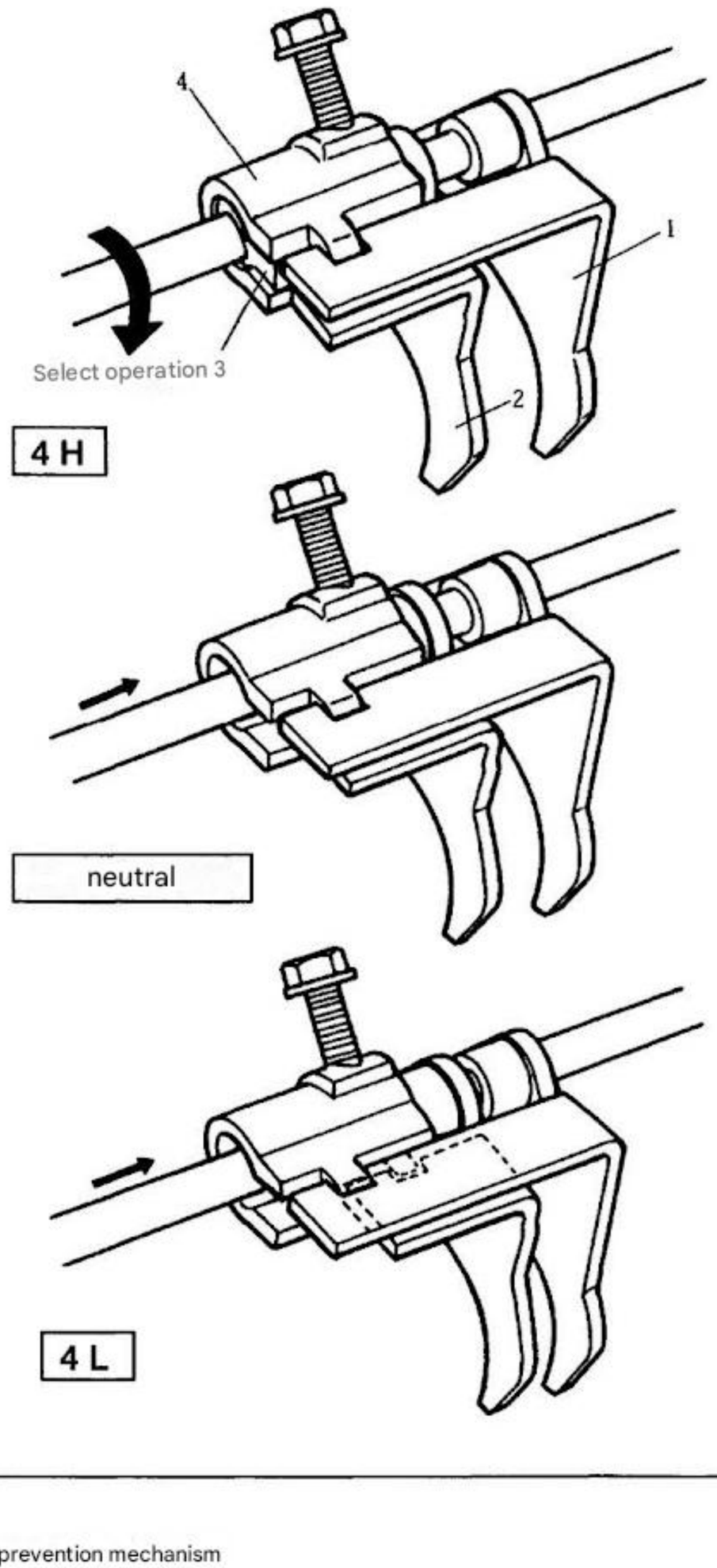
The claw of the shift & select lever fits into the groove of the Hi-Lo shift fork, and the claw of the interlock block fits into the groove of the 2-4 shift fork.

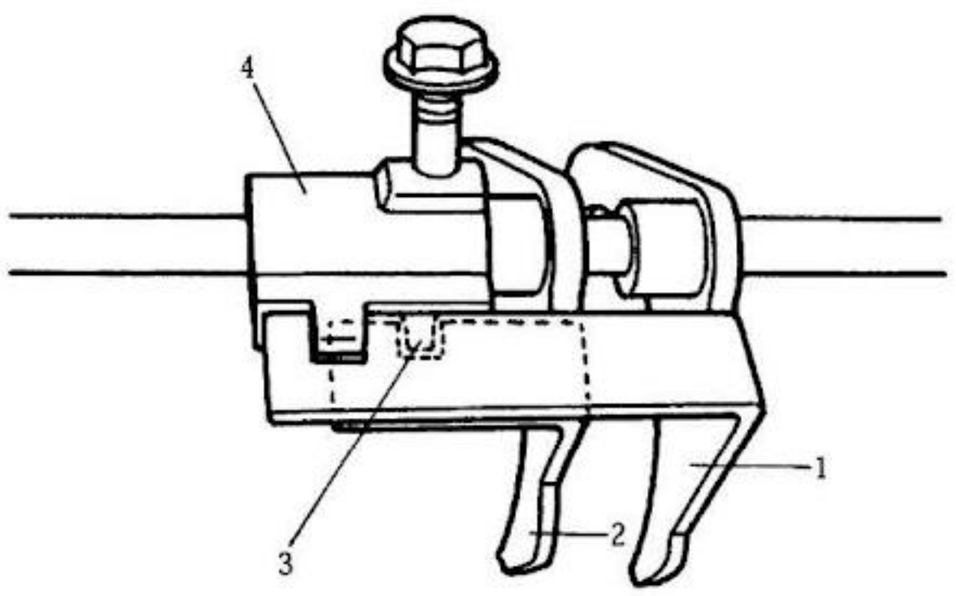
Next, when shifting into N or 4L, the shift shaft moves axially, moving the Hi-Lo shift fork that engages with the pawl of the shift & select lever toward the N or 4L side.

At this time, the 2-4 shift fork cannot move because the claws of the interlock block fixed to the transfer case are engaged in the grooves of the shift fork.

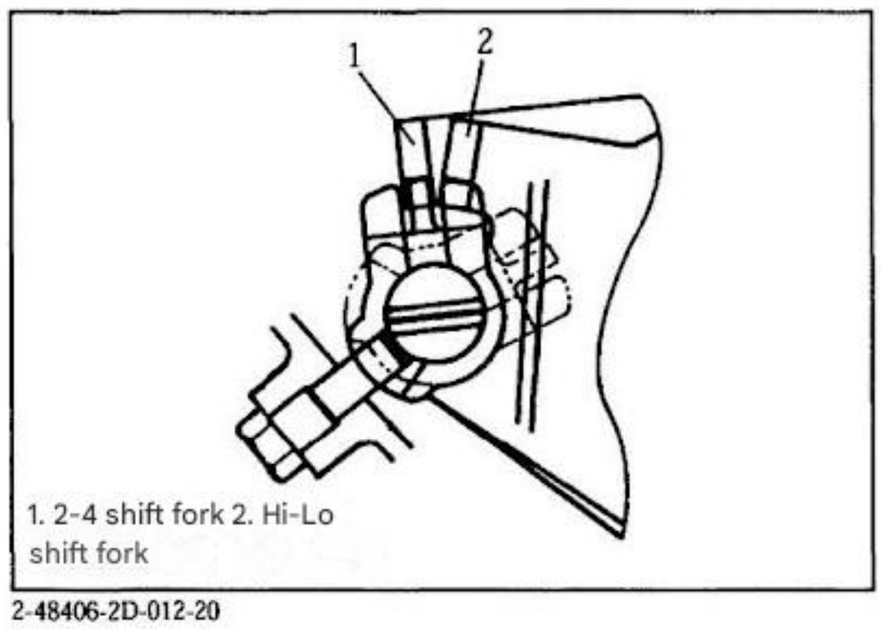


1.2-4 shift fork
2. Hi-Lo shift fork
3. Shift & Select Lever
4. Interlock Block





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1. 2-4 shift fork 2. Hi-Lo shift fork

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Double meshing prevention mechanism

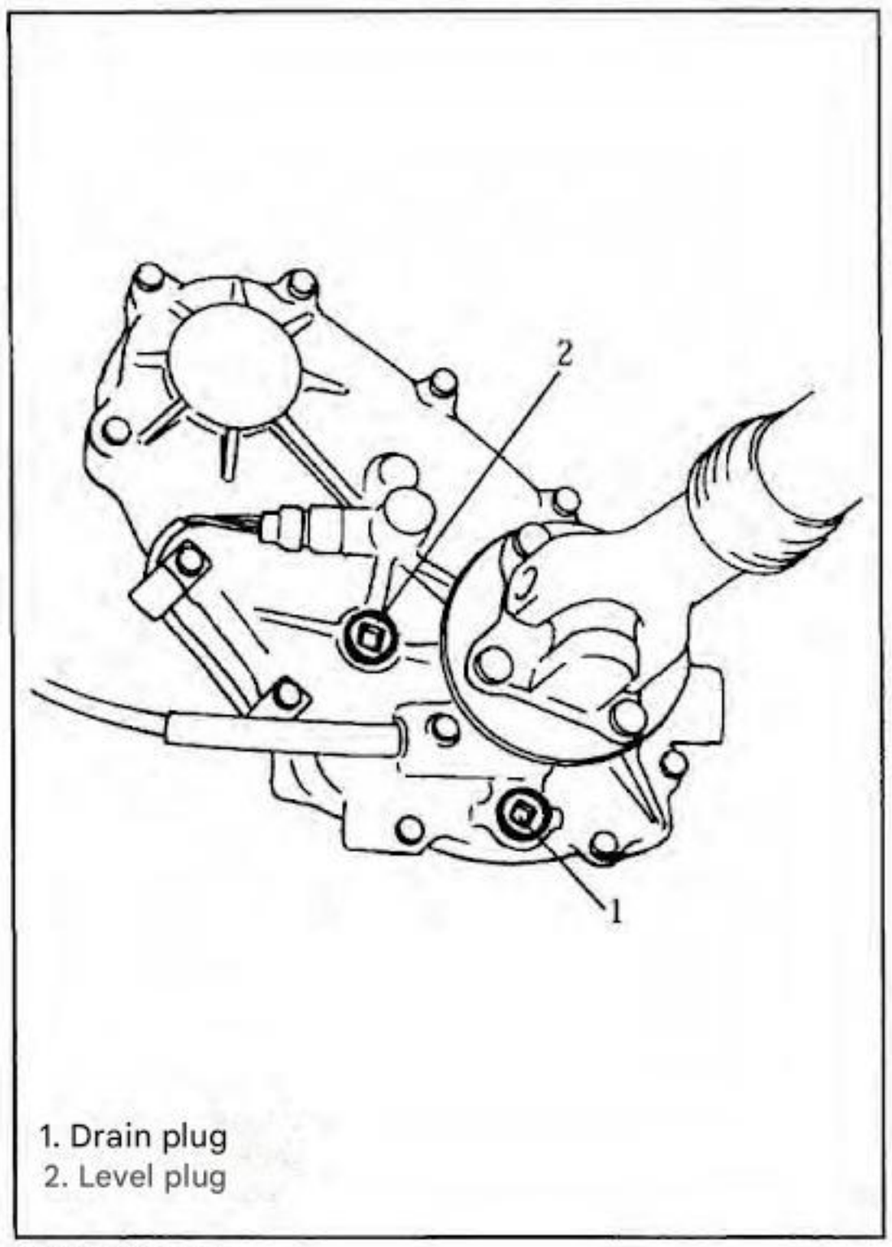
As can be seen from the explanation of the shifting operation above, when the pawls of the interlock block enter the grooves of each shift fork, the movement of the shift fork is restricted, thereby preventing double engagement.

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Fault diagnosis

situation	Estimated cause	Treatment method
Out of gear	• Wear of shift fork shaft	exchange
	• Wear of shift fork or sleeve	exchange
	- Deterioration or damage to the locating spring	exchange
	- Input shaft or output shaft bearing wear	exchange
	- Wear of the chamfer of the sleeve or gear	exchange
heavy shifting	• Lack of lubricating oil	replenishment
	- Wear of the chamfer of the sleeve or gear	exchange
	• Shift shaft distortion	exchange
strange noise	• Lack of lubricating oil	replenishment
	• Bearing damage or wear	exchange
	- Gear damage or wear	exchange
	- Wear of the chamfer of the sleeve or gear	exchange

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1. Drain plug
2. Level plug

2-48406-2D-014-10

On-board maintenance
4-Wheel Service and Parts News

oil change

1. Before changing the oil or checking the oil level, be sure to stop the engine and lift the vehicle up and level.
2. With the vehicle lifted up, check the oil level and check for oil leaks. If any oil leaks are found, repair them.
3. Remove the drain plug and drain the oil.
4. Apply sealant to the drain plug and tighten it to the specified torque.

Sealant (Suzuki Three Bond 1215): 99000-31080-15A

Drain plug tightening torque: 23N・m (235kgf.cm}

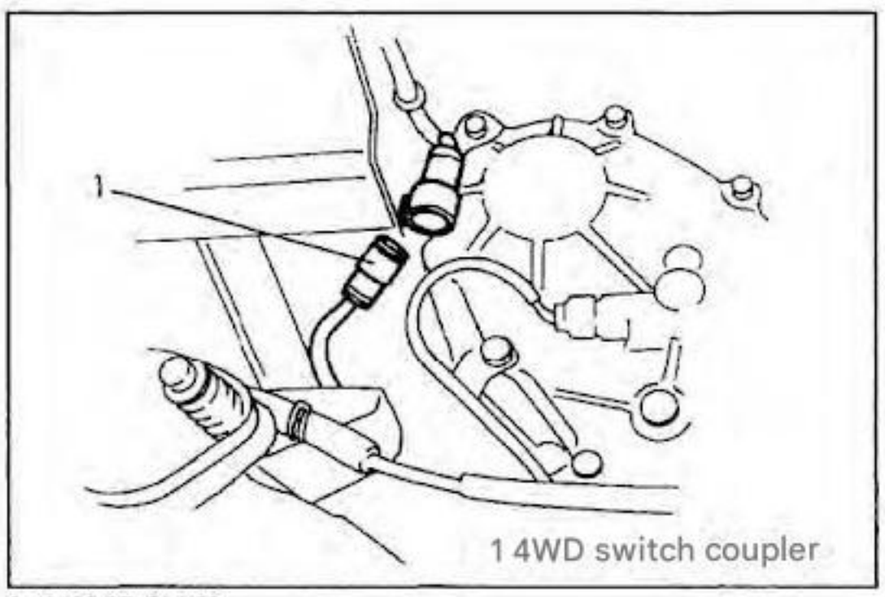
5. Inject the specified amount of oil into the level plug hole (to the mouth of the level plug hole), apply sealant to the level plug, and tighten it to the specified torque.

Recommended oil: Suzuki four-wheel gear oil 75W-90 (GL-4)

Oil capacity(l):0.8

Level plug tightening torque: 23Nm [235kgf.cm}

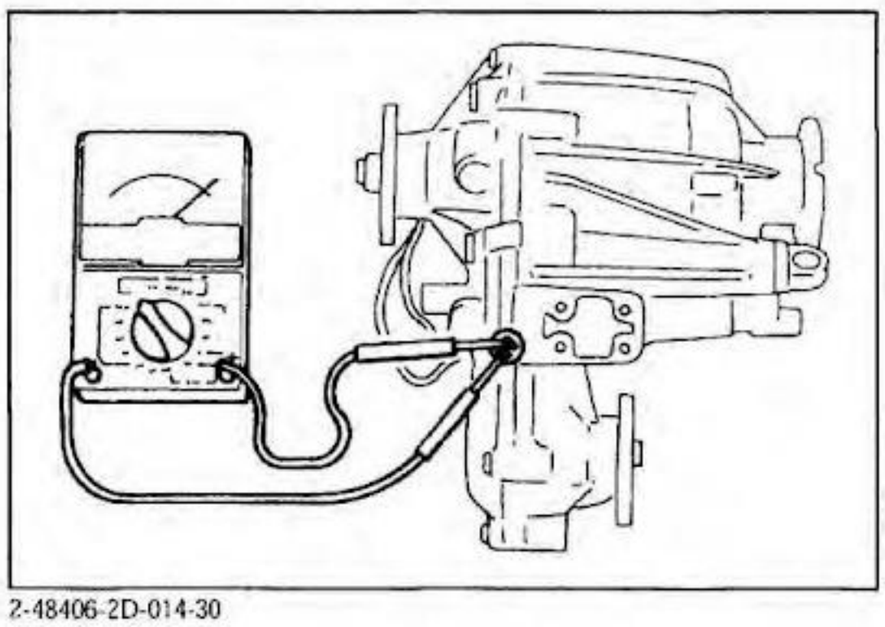
Transfer oil change interval: Every 40,000km
"In severe conditions: every 20,000km"



2-48406-2D-014-20

4WD switch inspection

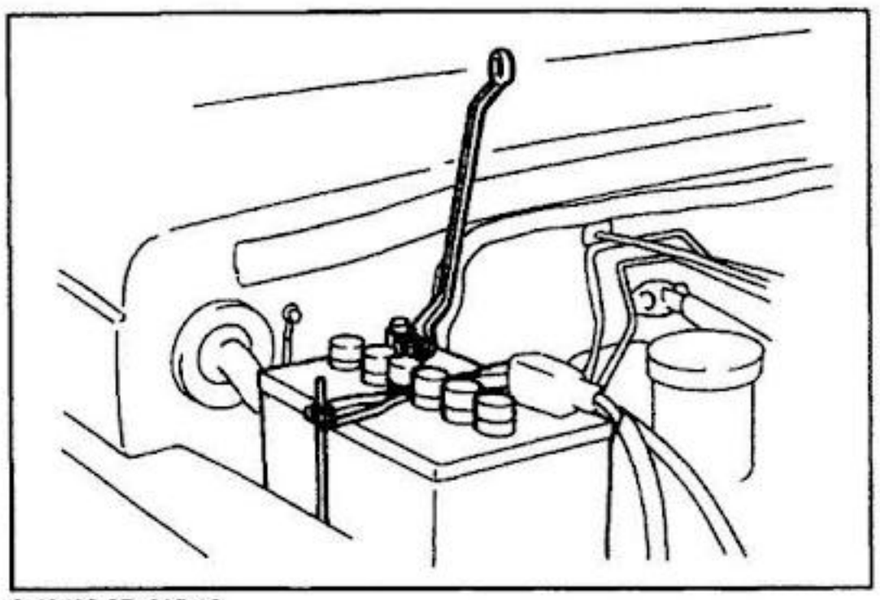
1. Lift up the vehicle body to a horizontal position.
2. Disconnect the 4WD switch coupler.



2-48406-2D-014-30

3. Check that there is continuity to the 4WD switch when the transfer lever is in the 4WD position.

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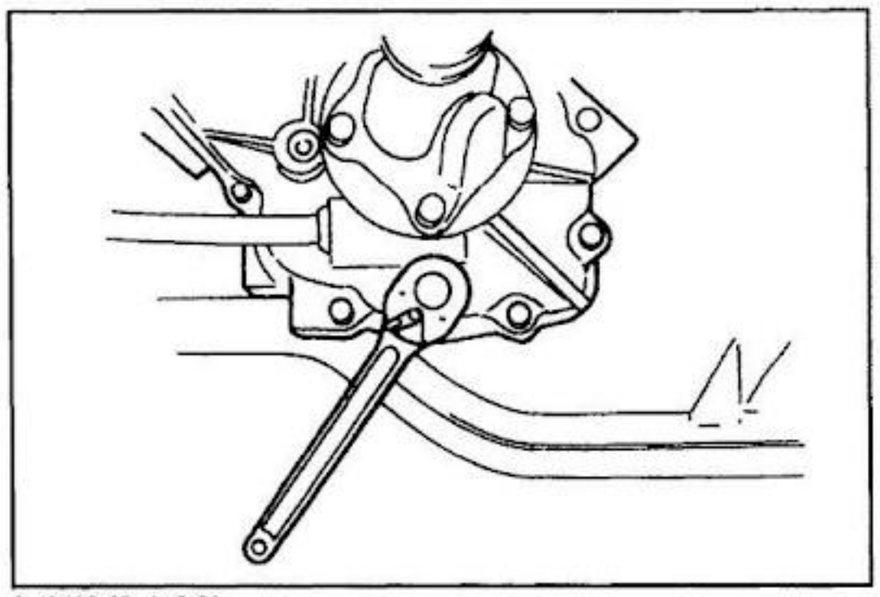

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Disassembly and maintenance

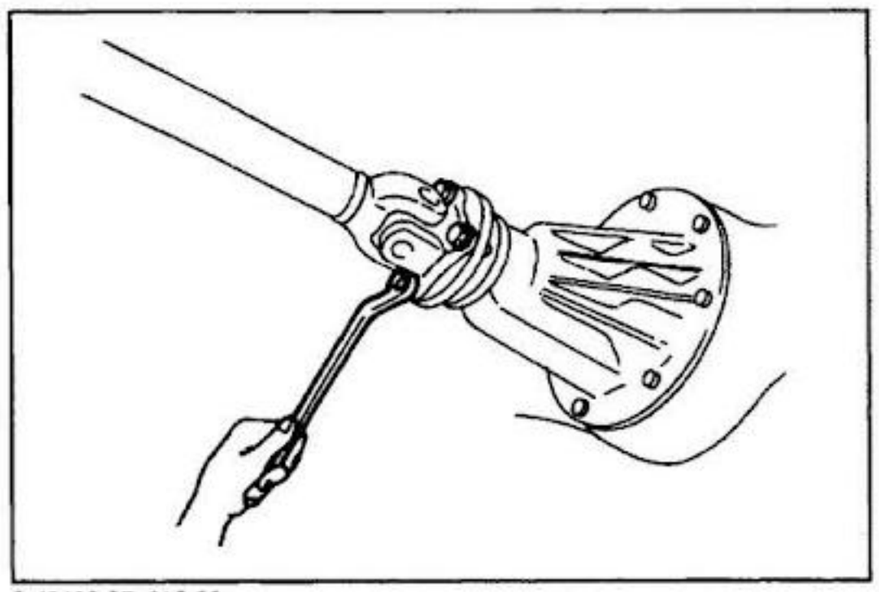
Transfer unit removal/installation

Removal

1. Disconnect the battery terminals.

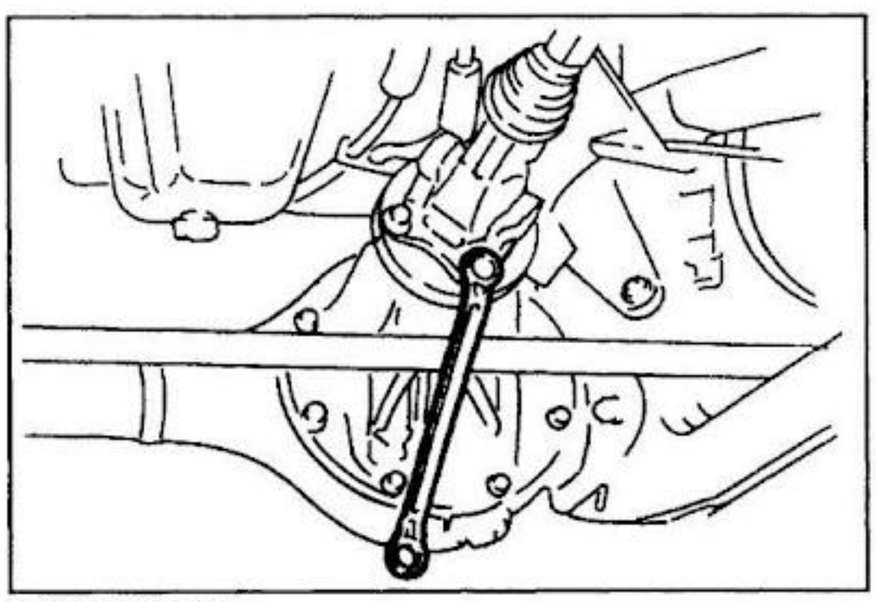

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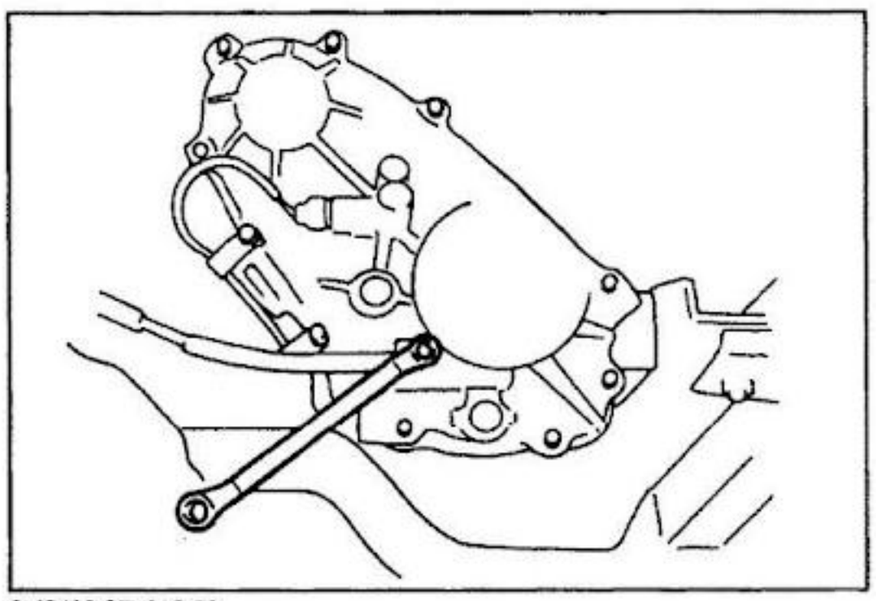
2. Drain the transfer oil. (See 2D-14 Oil Change.)


2-48406-2D-015-30

3. Remove propeller shafts No.1, No.2, and No.3.

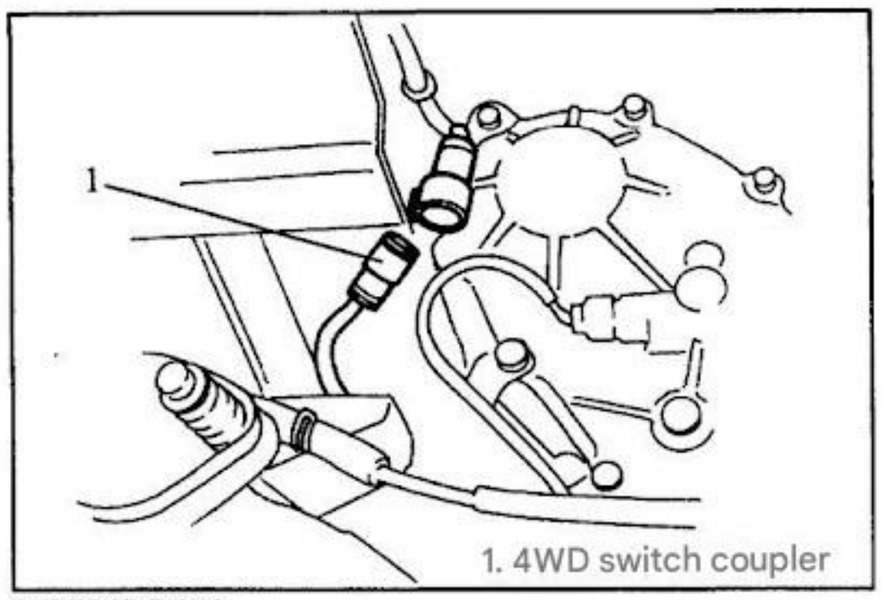
Note: When removing the propeller shaft, be sure to place alignment marks on the propeller shaft, differential and transfer flanges.


2-48406-2D-015-40


2-48406-2D-015-50

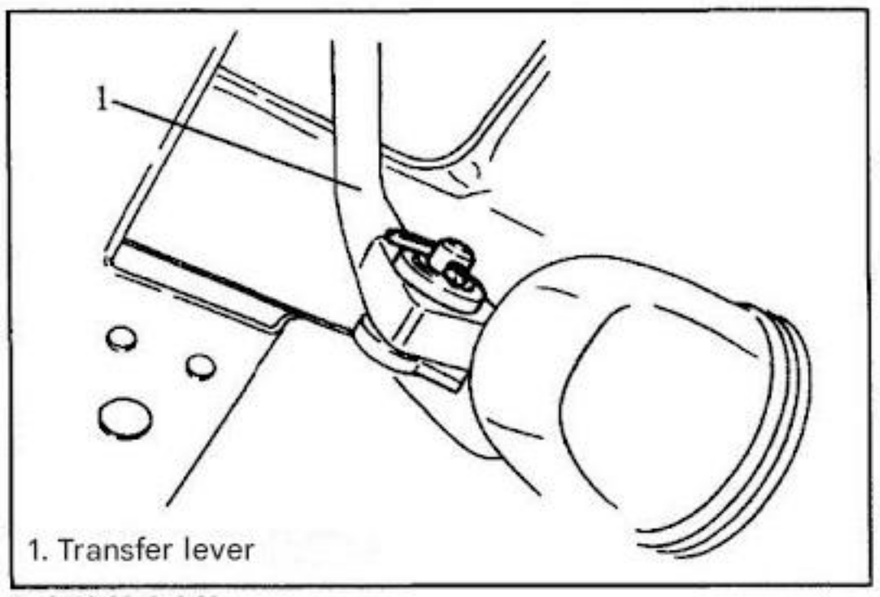
4. Disconnect the speedometer cable.

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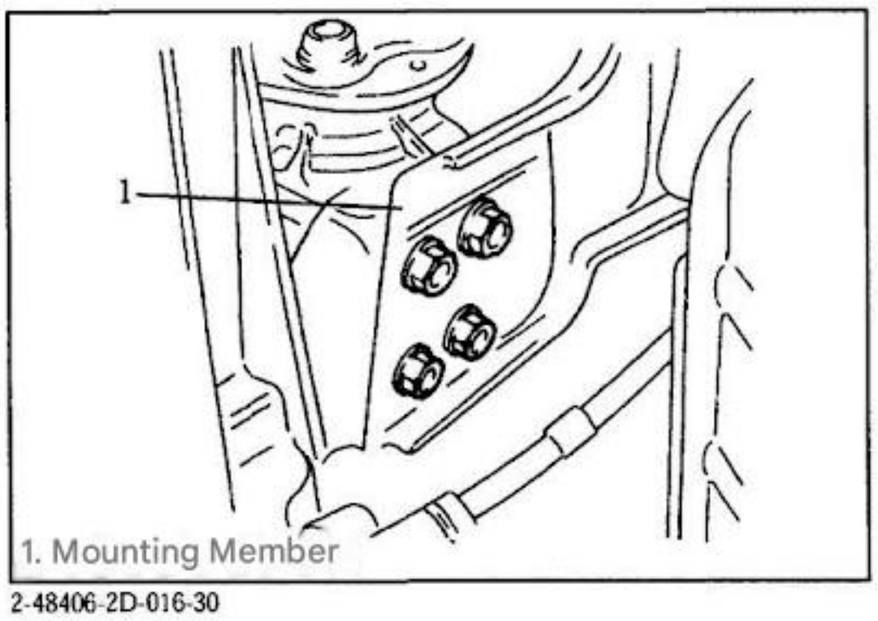
2-48406-2D-016-10

5. Disconnect the 4WD switch coupler.



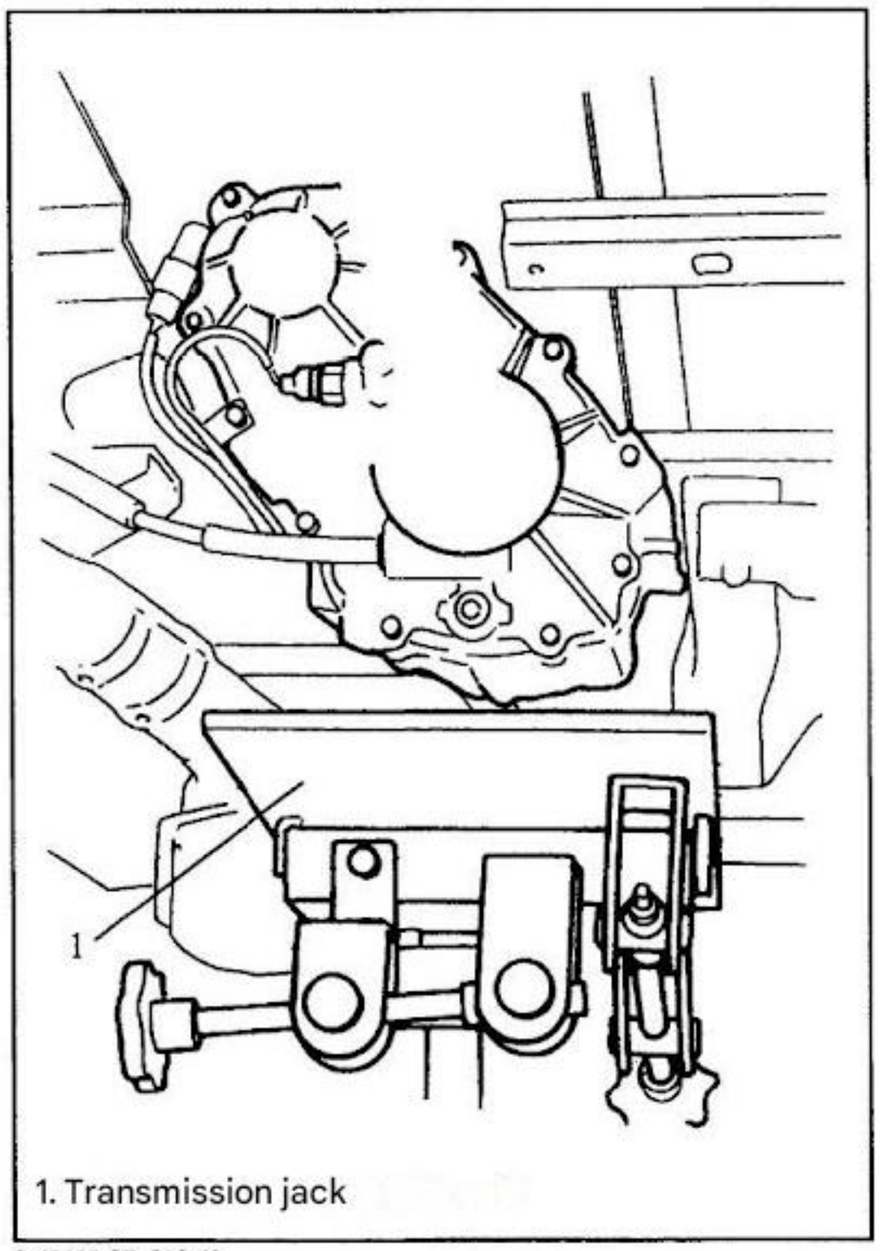
2-48406-2D-016-20

6. Unclip the transfer lever and remove the pin and washer.



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7. Place the transmission jack under the transfer case and remove the left mounting member.
8. Remove the right mounting member.



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9. Lower the jack and lower the transfer case.

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Installation

- Installation is the reverse of removal procedure.

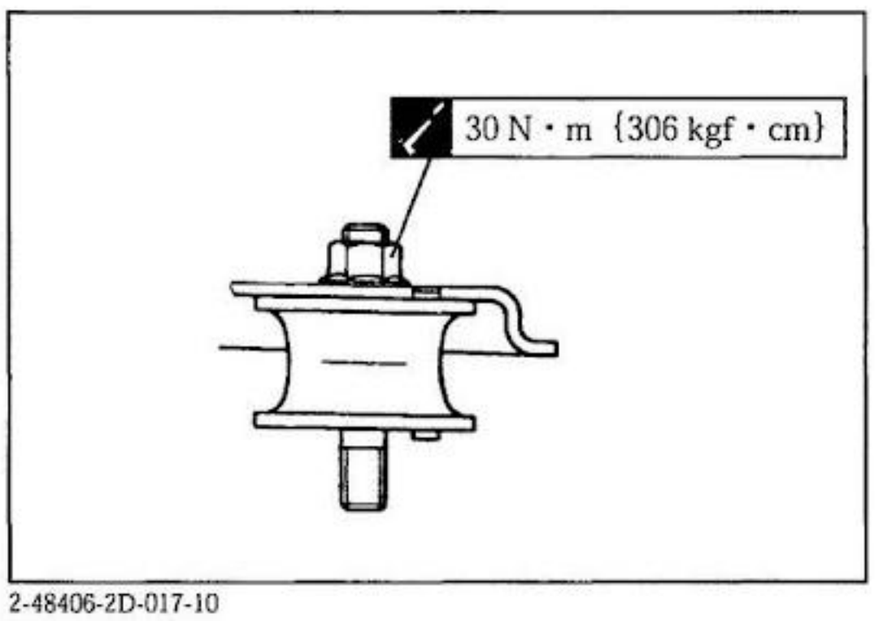
- Follow the tightening torques below.

Note: When installing the propeller shaft, be sure to align it with the alignment marks made during removal.

- After installation, be sure to inject the specified amount of oil according to the on-vehicle maintenance procedures.

- Make sure to securely fasten the transfer lever boot.

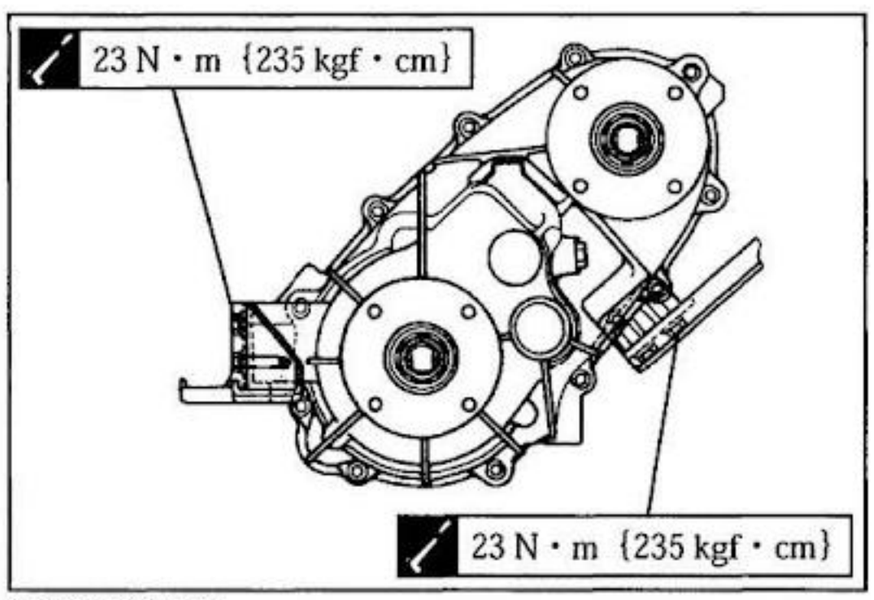
- Make sure to securely fasten the speedometer cable.



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Transfer mounting nut

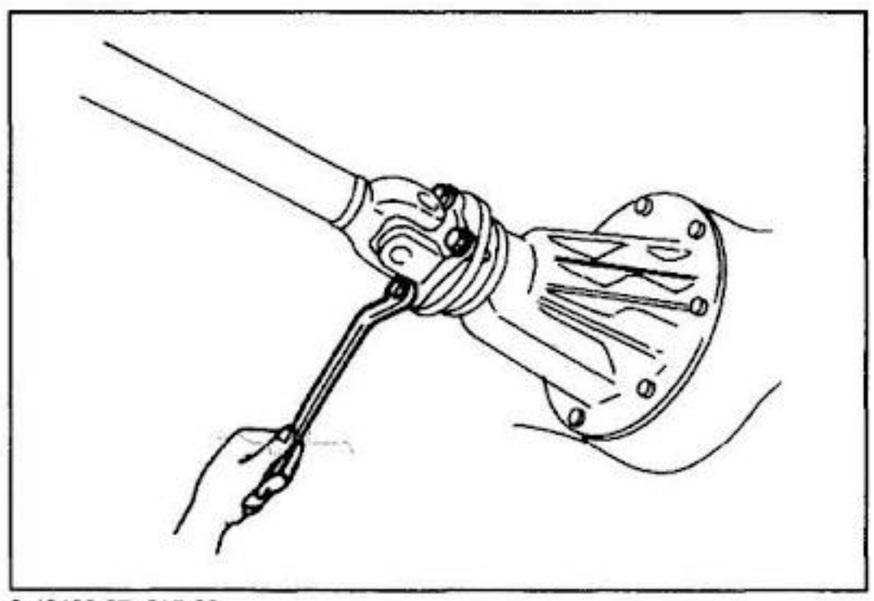
Tightening torque: 30Nm (306kgf.cm)



2-48406-2D-017-20

Transfer mounting bolt

Tightening torque: 23Nm (235kgf.cm)

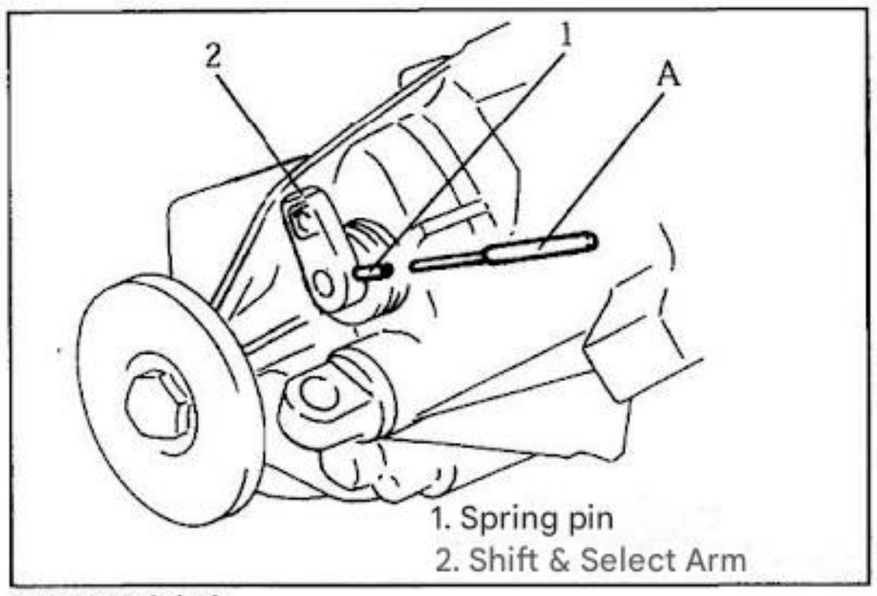


2-48406-2D-017-30

cross joint bolt

Tightening torque: 49Nm (500kgf.cm)

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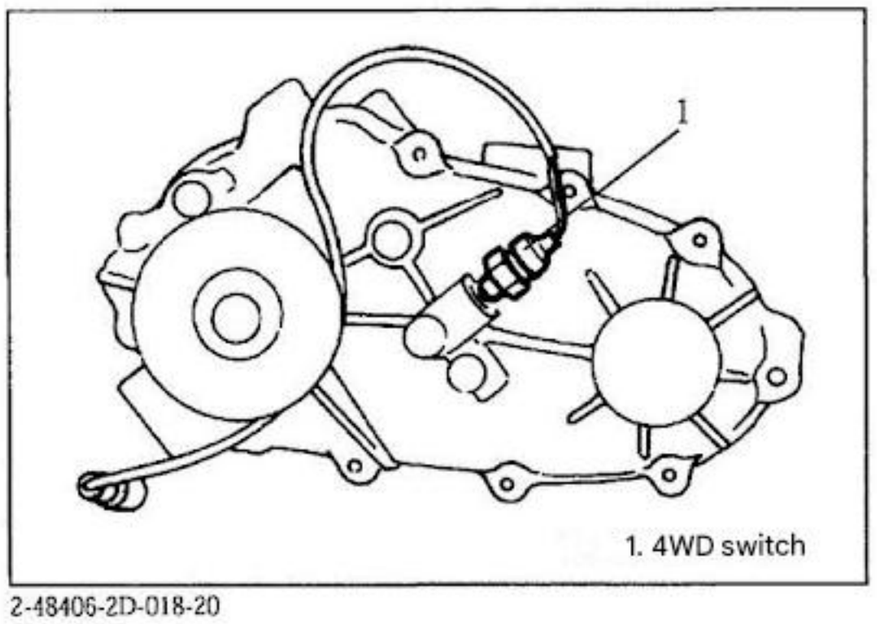


2-48406-2D-018-10

Transfer decomposition

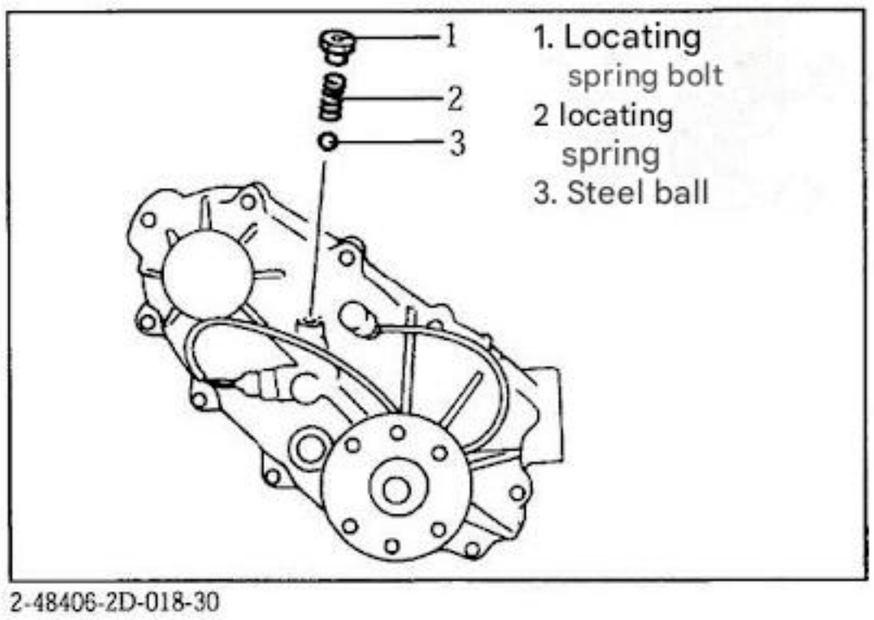
1. Use the special tool to remove the spring pin and remove the shift and select arm.

Special Tool A: 09922-85811



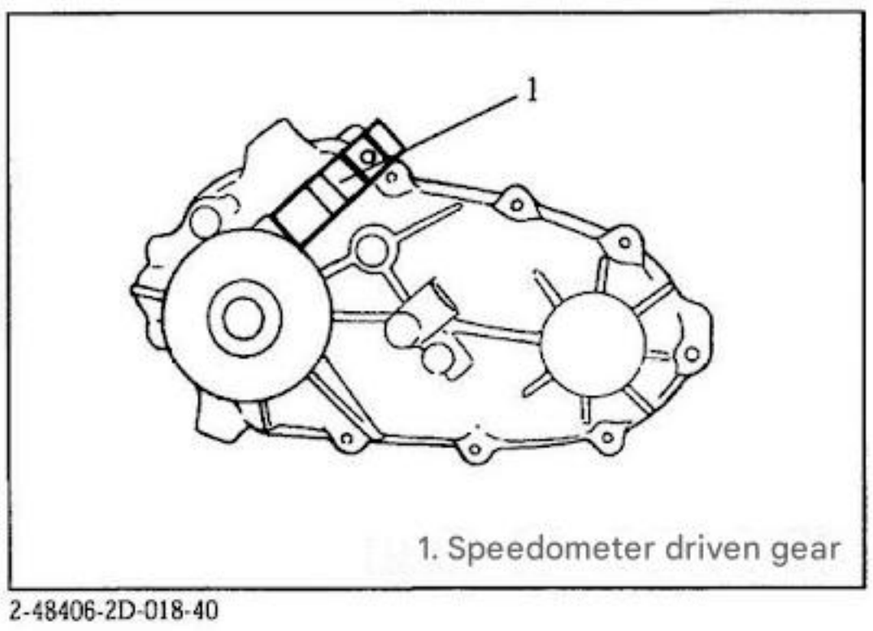
2-48406-2D-018-20

2. Remove the 4WD switch and take out the steel ball.



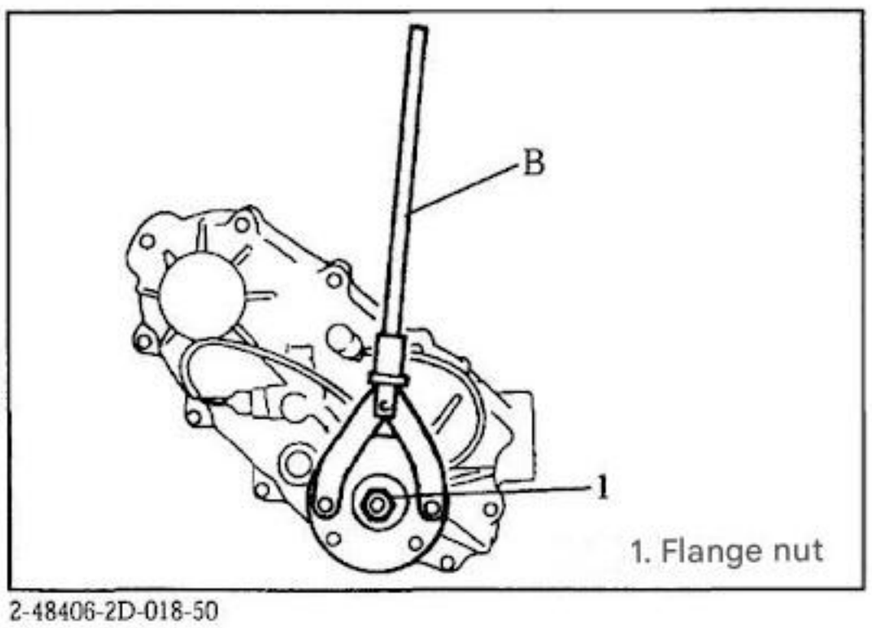
2-48406-2D-018-30

3. Remove the locating spring bolt and take out the locating spring and steel ball.



2-48406-2D-018-40

4. Remove the speedometer driven gear.

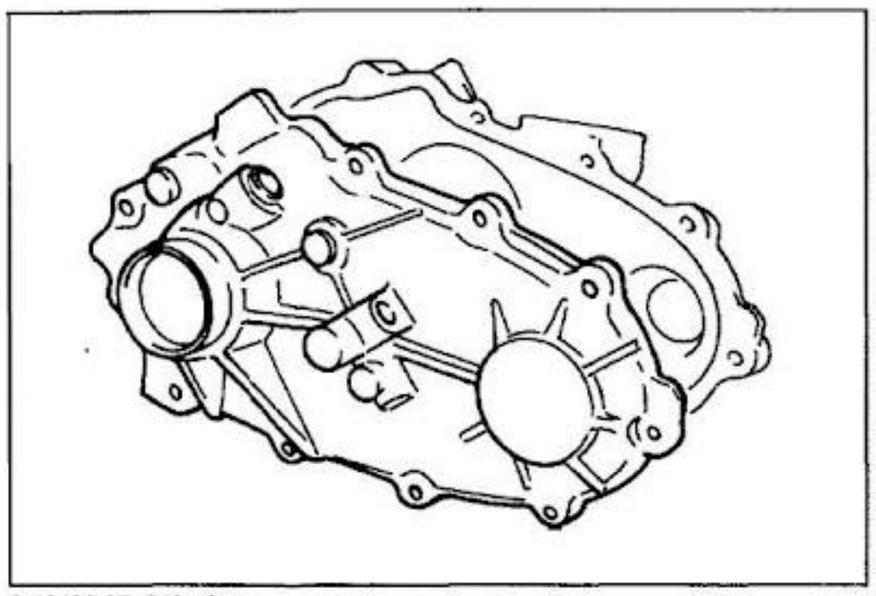


2-48406-2D-018-50

5. Remove the flange nut and remove the rear output flange.

Special Tool B: 09930-40113

Machine Translated by Google

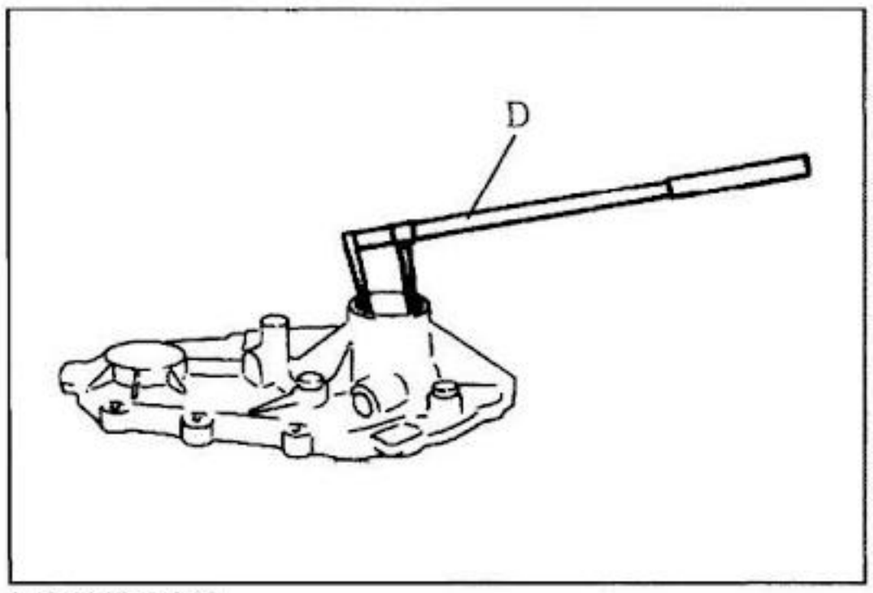


2-48406-2D-019-10

6. Remove the rear case mounting bolts (11 pieces), and use the special tool to separate the front case and rear case.

Note: When separating the cases, spread them out evenly.

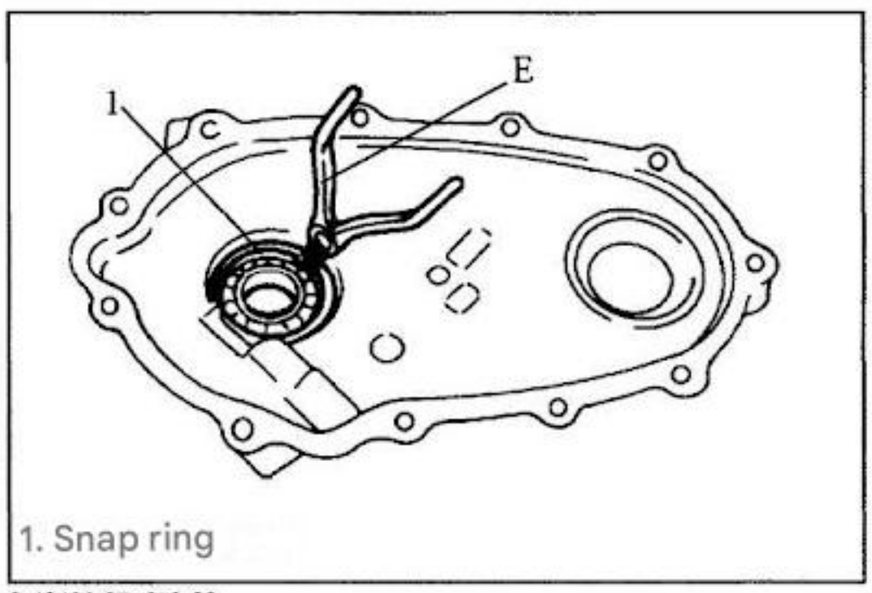
Special Tool C:09912-34510



2-48406-2D-019-20

7. Remove the oil seal from the rear case.

Special Tool D: 09913-50121

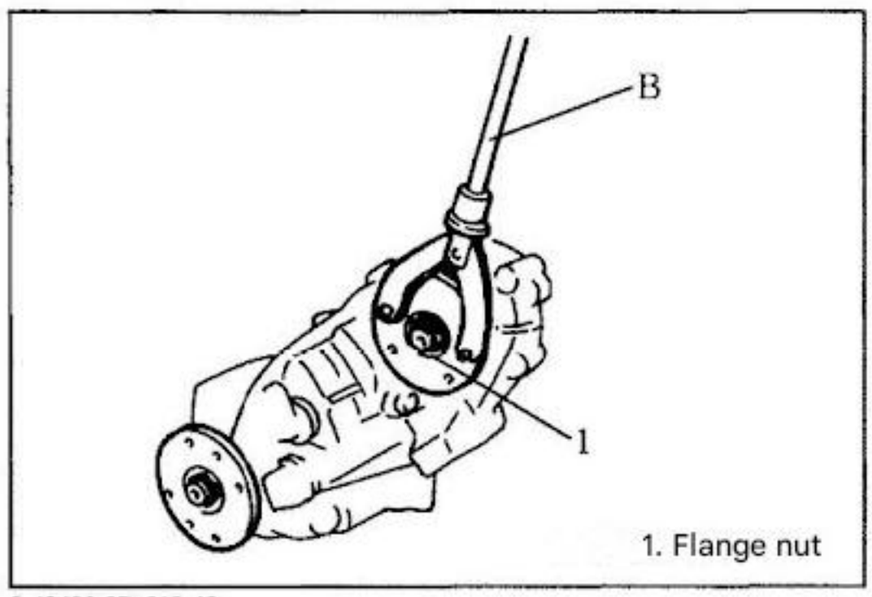


1. Snap ring

2-48406-2D-019-30

8. Remove the snap ring from the rear case and pull out the bearing.

Special Tools E:09900-06108

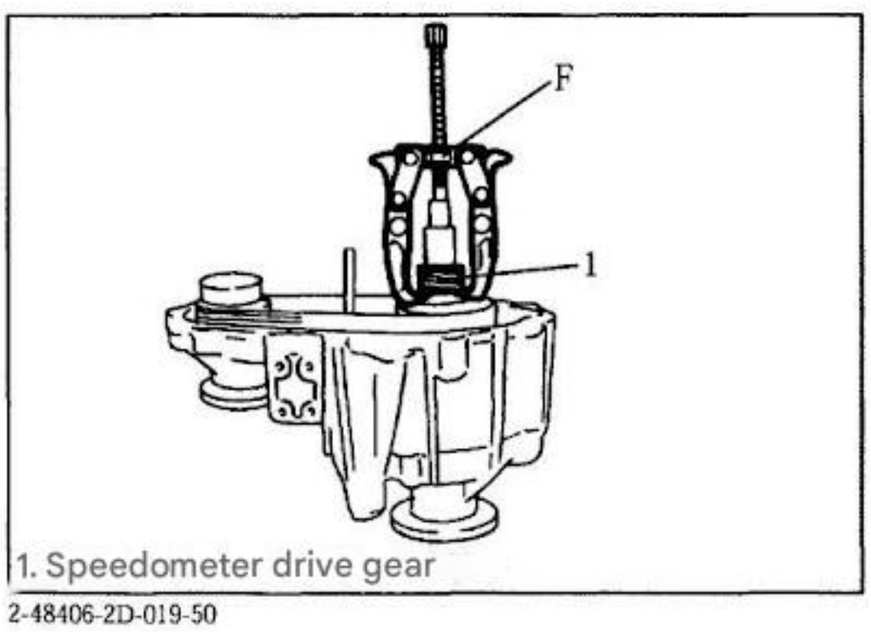


1. Flange nut

2-48406-2D-019-40

9. After removing the two crimps from the flange nuts on the input and output front, remove the flange nuts and then remove the flange.

Special Tool B: 09930-40113



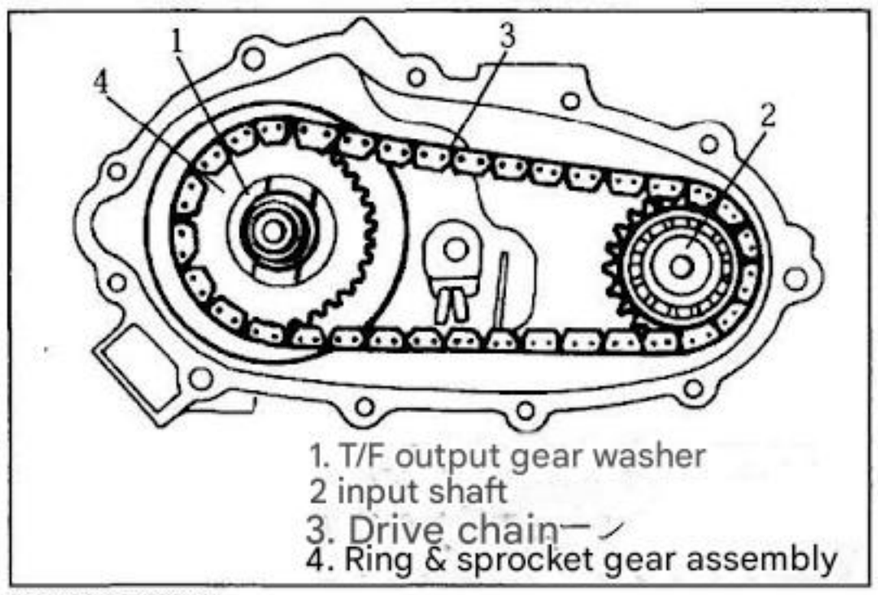
1. Speedometer drive gear

2-48406-2D-019-50

10. Using the special tool, remove the speedometer drive gear.

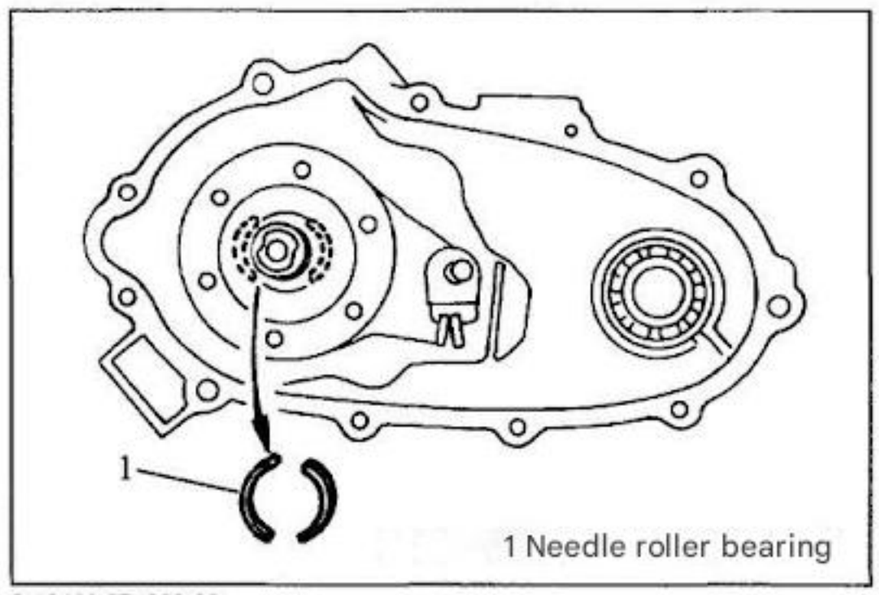
Special Tools F: 09913-65135

Machine Translated by Google



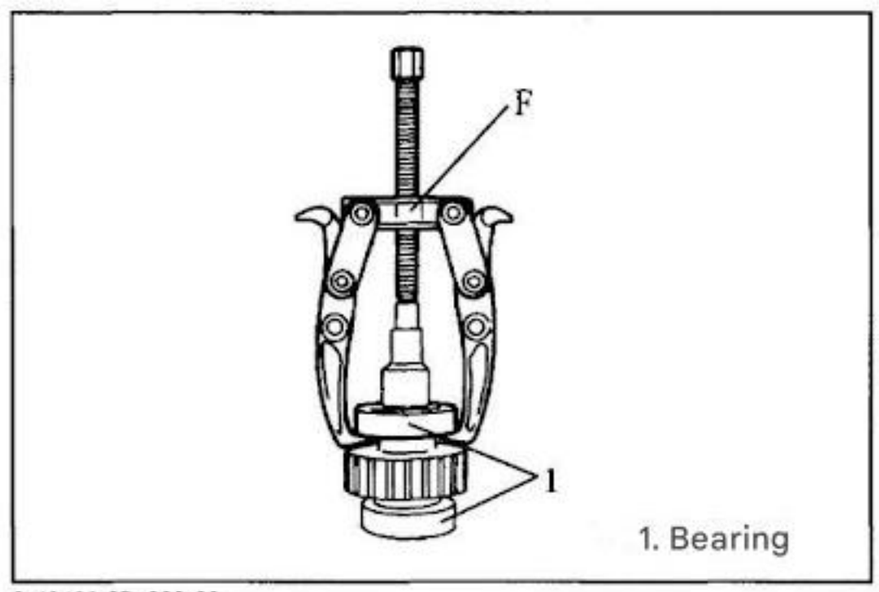
2-48406-2D-020-10

11. Remove the T/F output gear washer, then remove the drive chain, input shaft, and ring & sprocket gear assembly together.



2-48406-2D-020-20

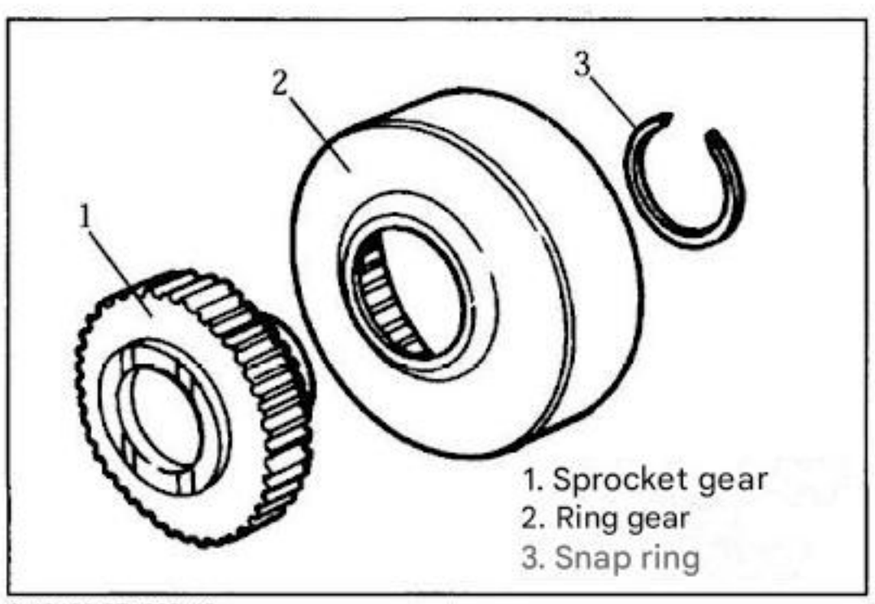
12. Remove the needle roller bearing from the output rear shaft.



2-48406-2D-020-30

13. Use the special tool to extract the bearing from the input shaft.

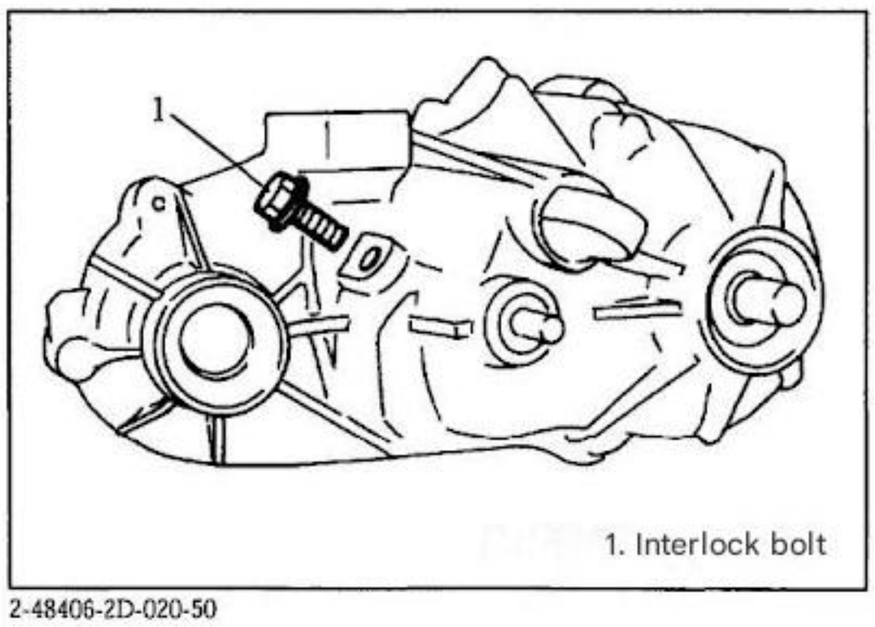
Special Tools F: 09913-65135



2-48406-2D-020-40

14. Using the special tool, remove the snap ring, and separate the ring gear and sprocket gear.

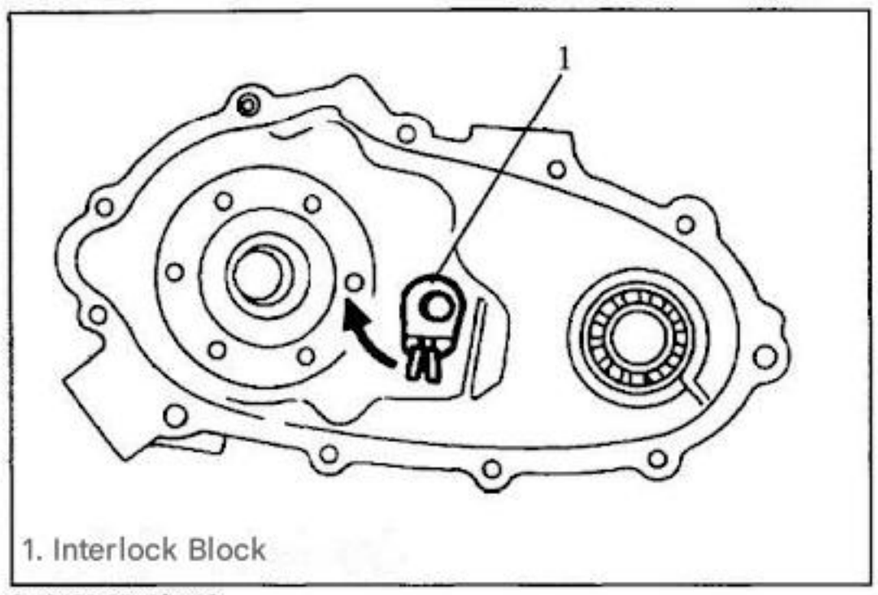
Special Tools G: 09920-76010



2-48406-2D-020-50

15. Remove the interlock bolt.

Machine Translated by Google

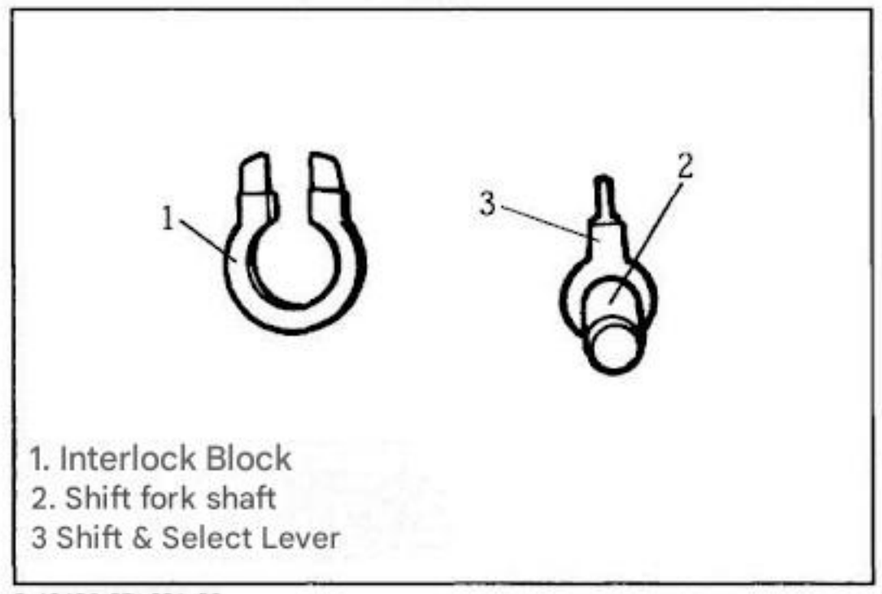


1. Interlock Block

2-48406-2D-021-10

16. Rotate the interlock block and remove it from the shift fork shaft.

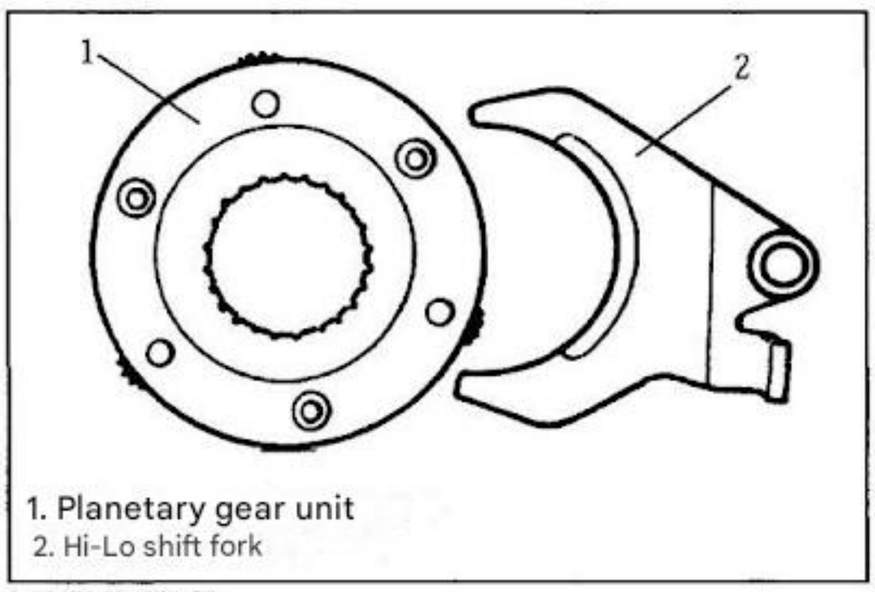
Tip: It is easier to remove the 2-4 fork and Hi-Lo fork if you pull them out slightly toward you.



1. Interlock Block
2. Shift fork shaft
3 Shift & Select Lever

2-48406-2D-021-20

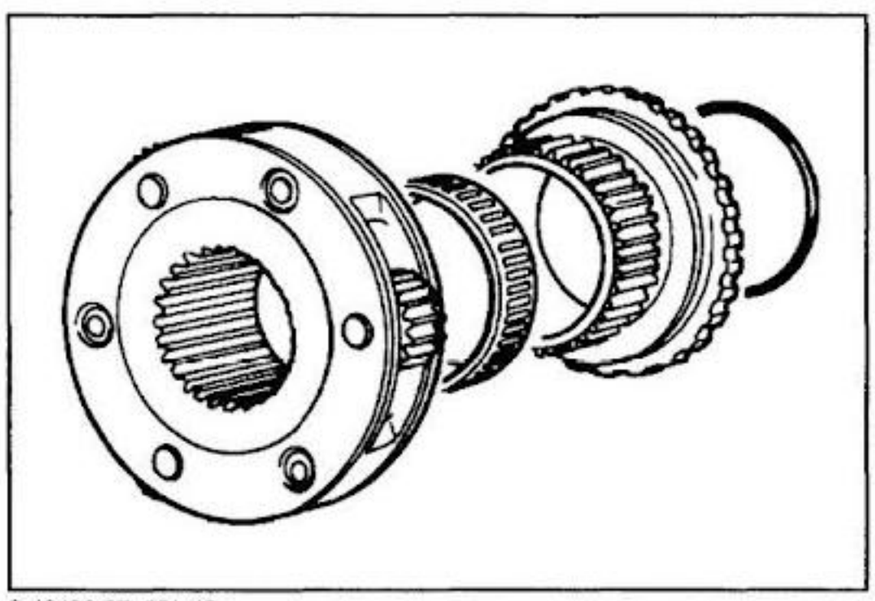
17. Remove the interlock block and shift fork shaft.



1. Planetary gear unit
2. Hi-Lo shift fork

2-48406-2D-021-30

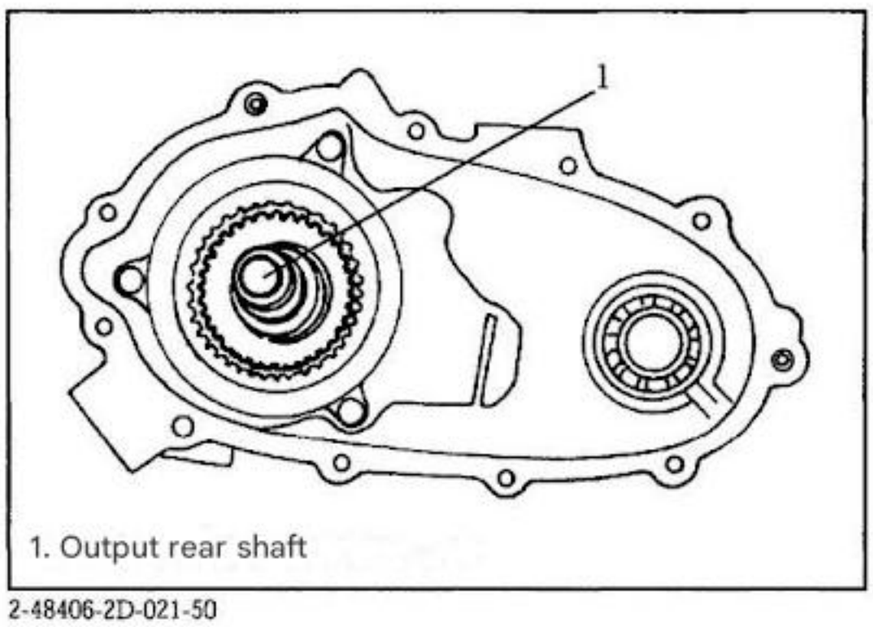
18. Remove the planetary gear unit and Hi-Lo shift fork.



2-48406-2D-021-40

19. Remove the snap ring and disassemble the carrier and sun gear.

Special Tool H:09900-06107

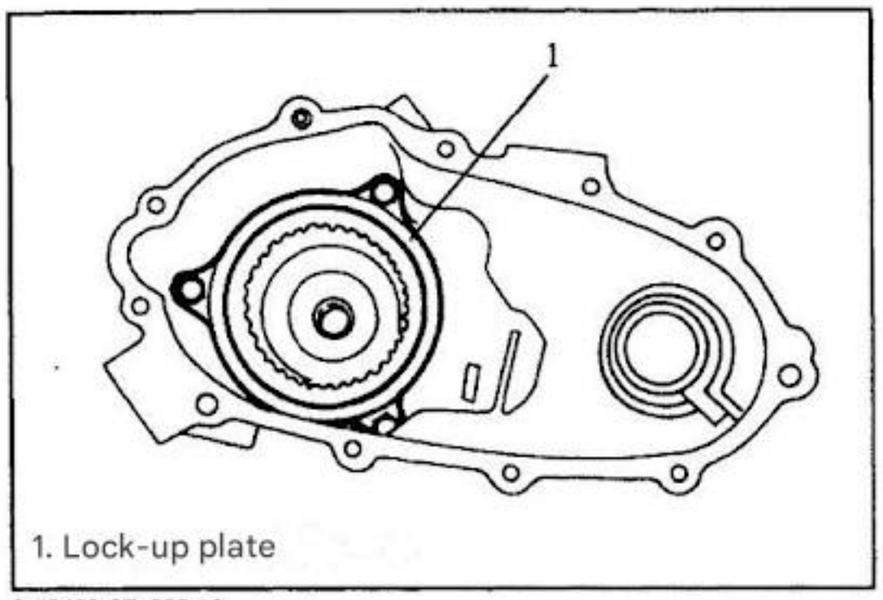


1. Output rear shaft

2-48406-2D-021-50

20. Remove the output rear shaft and synchronizer ring.

Machine Translated by Google

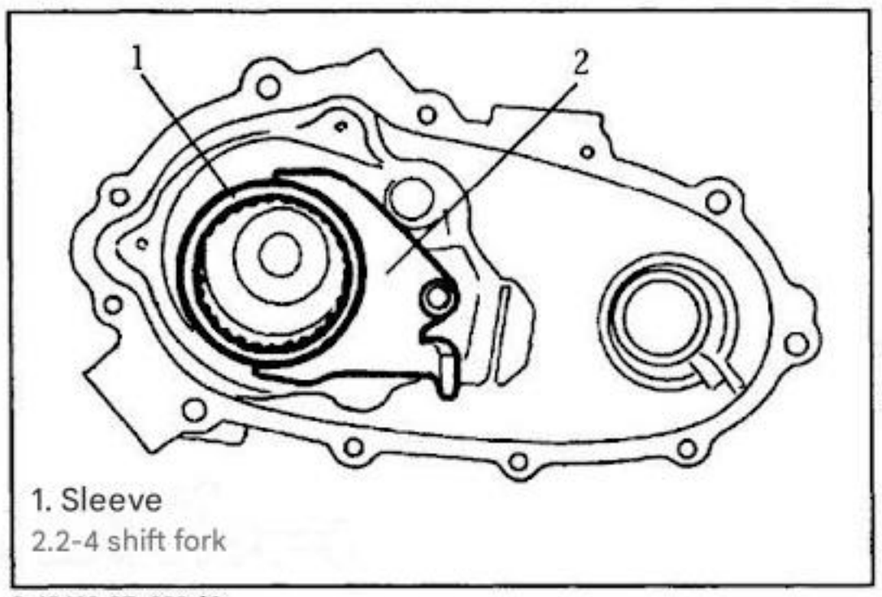


1. Lock-up plate

2-48406-2D-022-10

21. Remove the three bolts, and then remove the oil receiver pipe and lock-up plate.

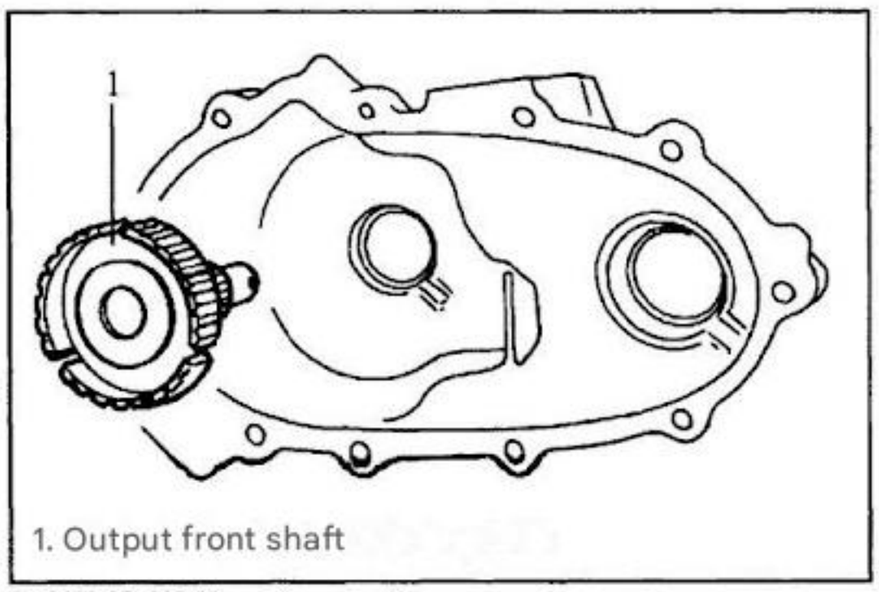
Note: There is an alignment mark on the lock-up plate, so be sure to check the position.



1. Sleeve
2.2-4 shift fork

2-48406-2D-022-20

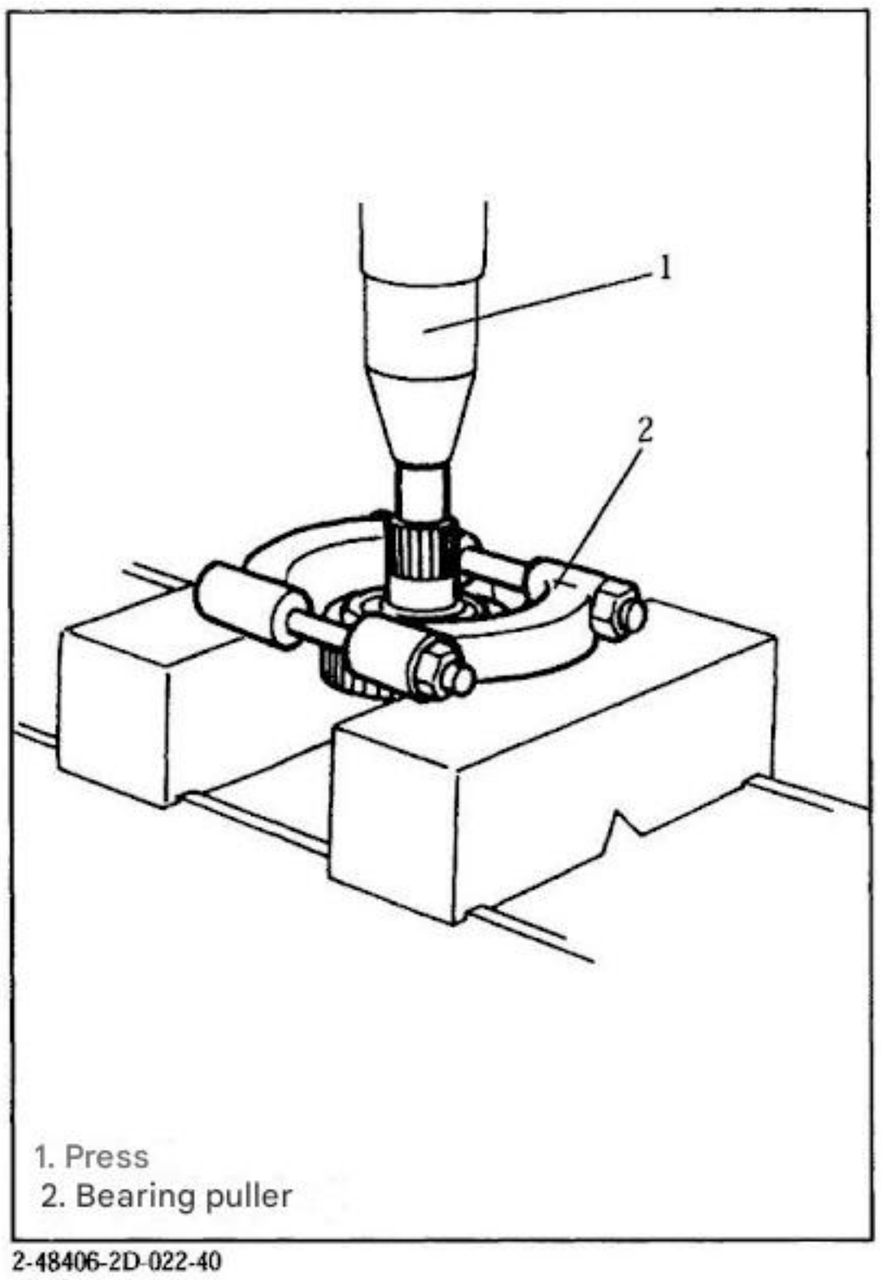
22. Remove the sleeve and 2-4 shift fork.



1. Output front shaft

2-48406-2D-022-30

23. Remove the output front shaft.

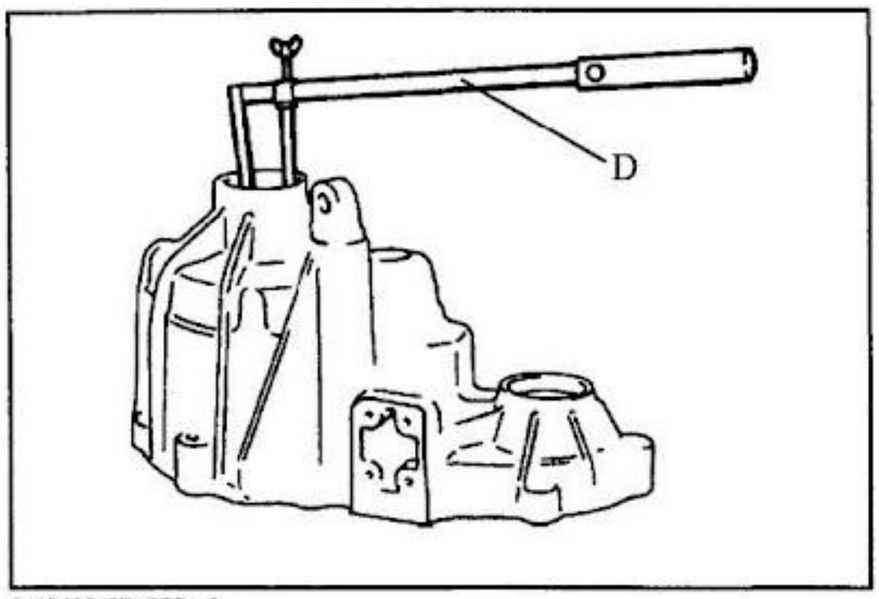


1. Press
2. Bearing puller

2-48406-2D-022-40

24. Use a bearing puller and press to extract the bearing from the output front shaft and remove the synchronizer key retainer.

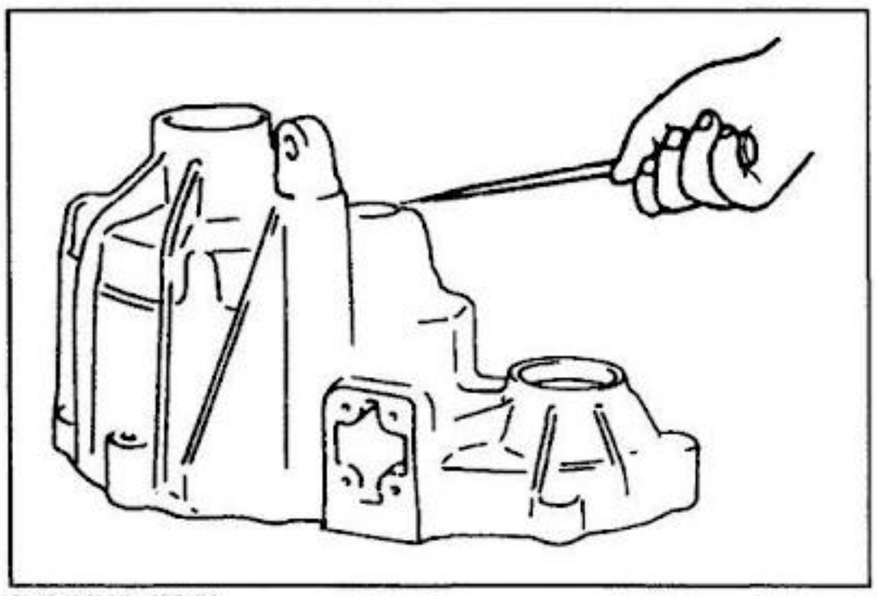
Machine Translated by Google



2-48406-2D-023-10

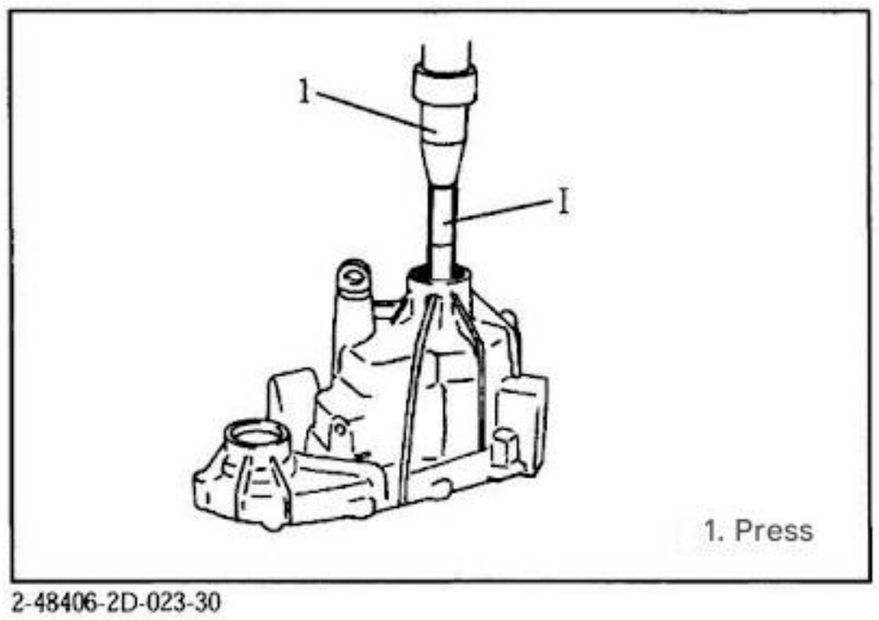
25. Use the special tool to remove the oil seals (2 places) from the front case.

Special Tool D: 09913-50121



2-48406-2D-023-20

26. Use a flat-head screwdriver to remove the shift fork shaft oil seal.



2-48406-2D-023-30

27. Remove the snap ring and use the special tool and press to extract the bearing.

Special Tools E:09900-06108

Special Tools 1: 09913-75830

Machine Translated by Google

Precautions when assembling

shafts, spline sliding surfaces, thrust surfaces, and other polished areas, as well as the gear teeth surfaces, to avoid dropping them.

Be especially careful when handling the gears,

Scratches on the radial and thrust surfaces can cause seizure, and scratches on the gear tooth surfaces can cause noise and abnormal sounds.

- When tightening bolts, be sure to observe the specified torque.
- To prevent seizure during the initial period of operation, be sure to apply the specified gear oil or grease to the sliding surfaces, thrust surfaces, etc.

After assembly, be sure to perform an operation test to check that it is working properly.

- Be careful not to scratch the bearing race.
- When installing the snap ring, be careful not to scratch other parts.
- When pressing in the ball bearing, press gently to avoid applying impact force.
- When assembling the oil seal, first check the installation direction of the oil seal, and when pressing it in, apply oil to the outer circumference and press it in to the specified depth.

Apply grease to the entire circumference of the seal lip, and be careful not to scratch it when inserting the shaft.

- When replacing the front or rear case, replace the front and rear cases as a set.
- Be sure to clean the transfer thoroughly before assembly to prevent dirt or other impurities from getting into the transfer.
- When assembling the flanges of the input shaft, output front shaft, and output rear shaft,

The "finishing" is important for functionality, so please pay close attention and follow the instructions below.

①Tighten the flange nuts to the specified torque.

② Crimp two places at the same time to match the position of the crimping groove on the shaft.

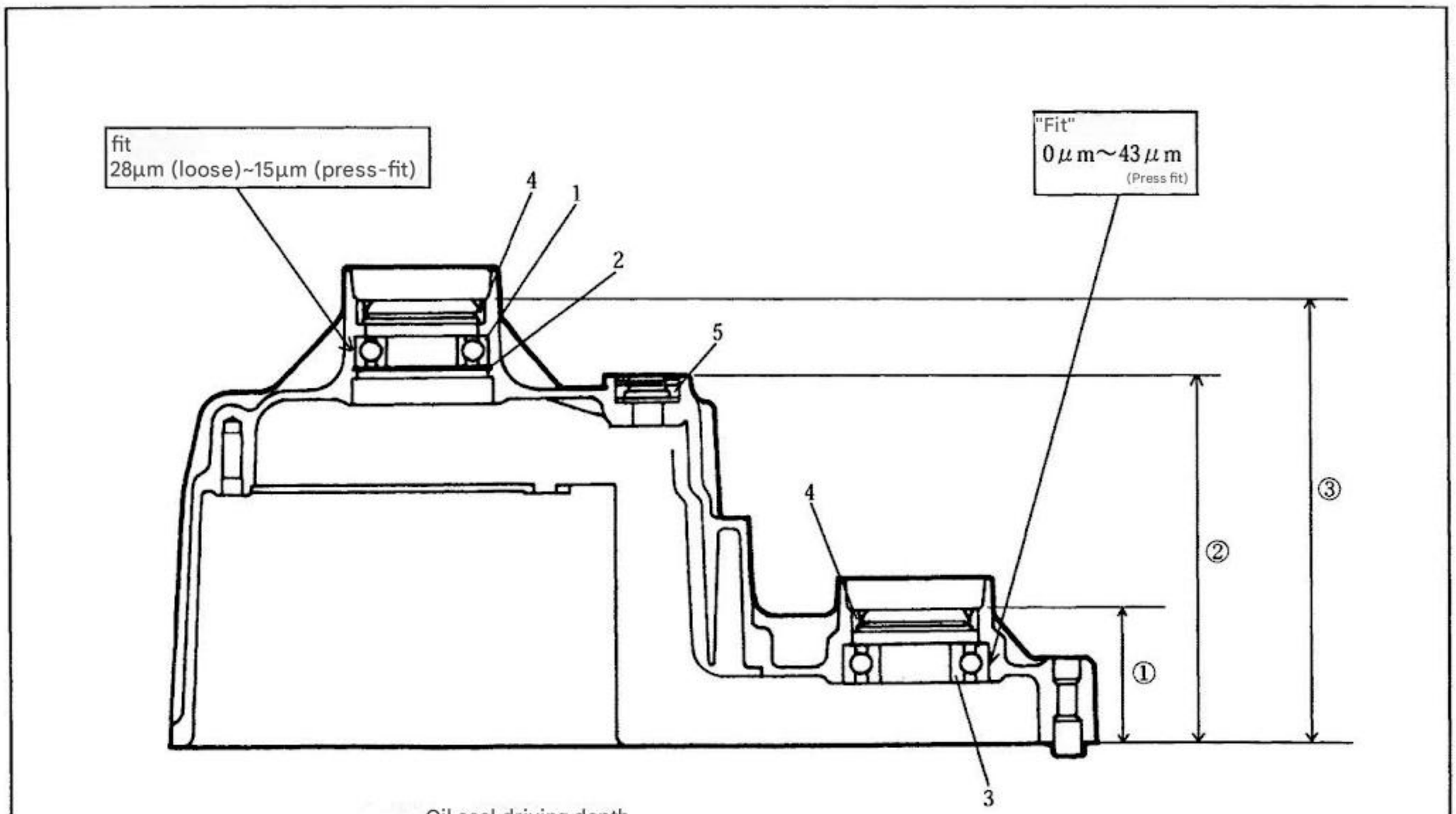
At this time, be careful not to apply excessive force to the shaft.

3) After crimping, be sure to check that the crimp is securely applied to the shaft groove.

Machine Translated by Google

Transfer inspection/assembly

front case

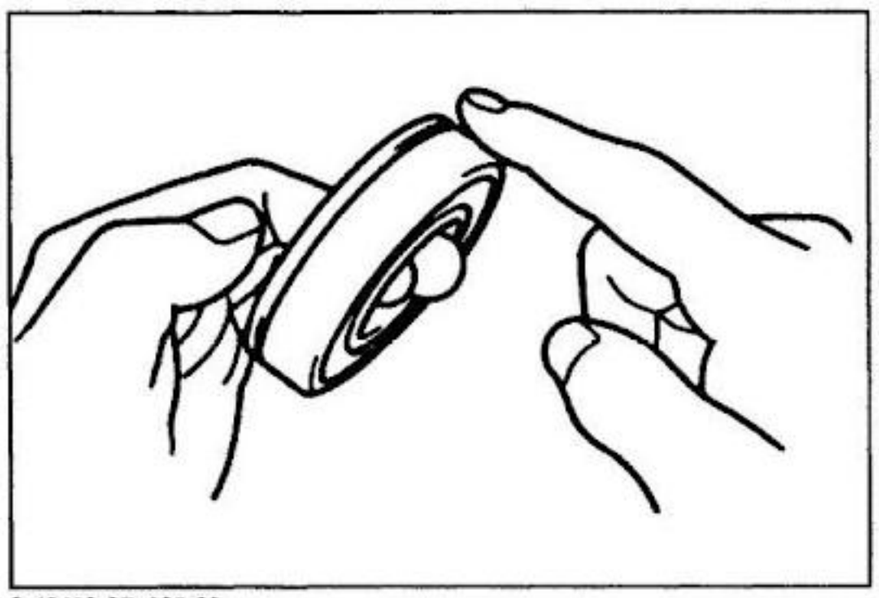


Oil seal driving depth

①Drilling depth	53.7±0.5
②Depth of impact:	149.3±0.8
③Drilling depth	179.8±0.5

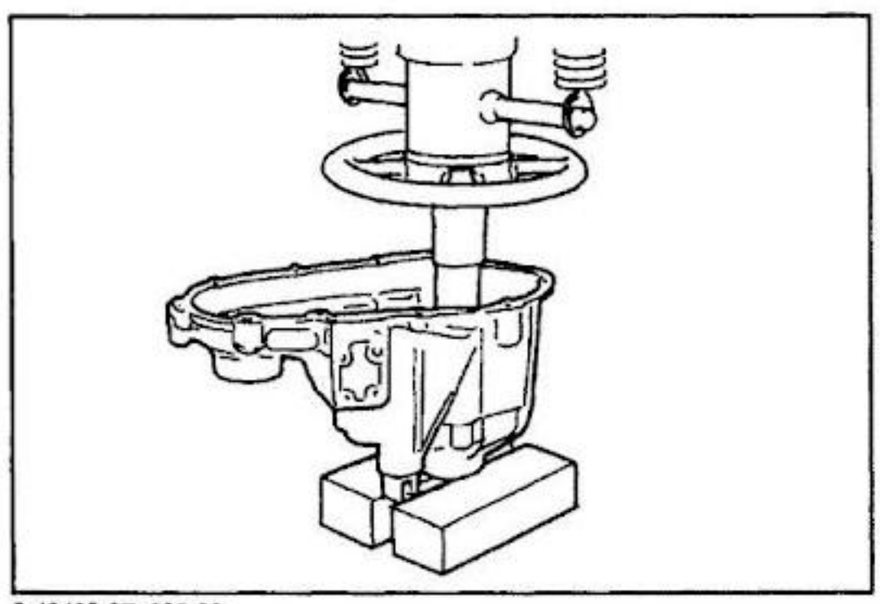
1. Bearing (Output front shaft)
2. Snap ring
3. Bearing (input shaft)
4. Oil seal (input & output shaft)
5. Oil seal (shift fork shaft)

2-48406-2D-025-10



2-48406-2D-025-20

1. Check the bearings for play, sticking, damage, or abnormal noises.



2-48406-2D-025-30

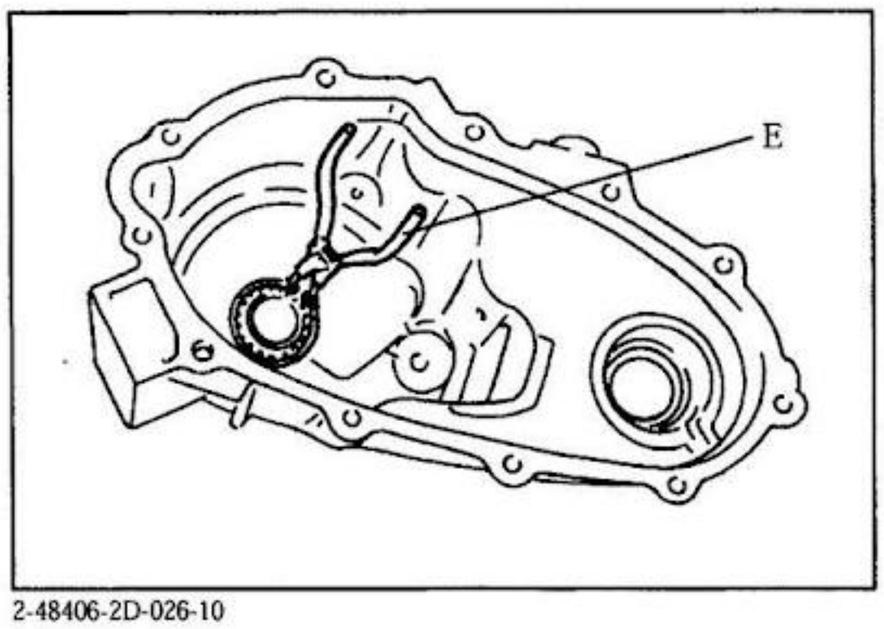
2. Use the special tool and press to press the bearing into the front case.

Note: Press only the outer race to press it in.

Special Tools J:09913-85210

K ：09913-75810

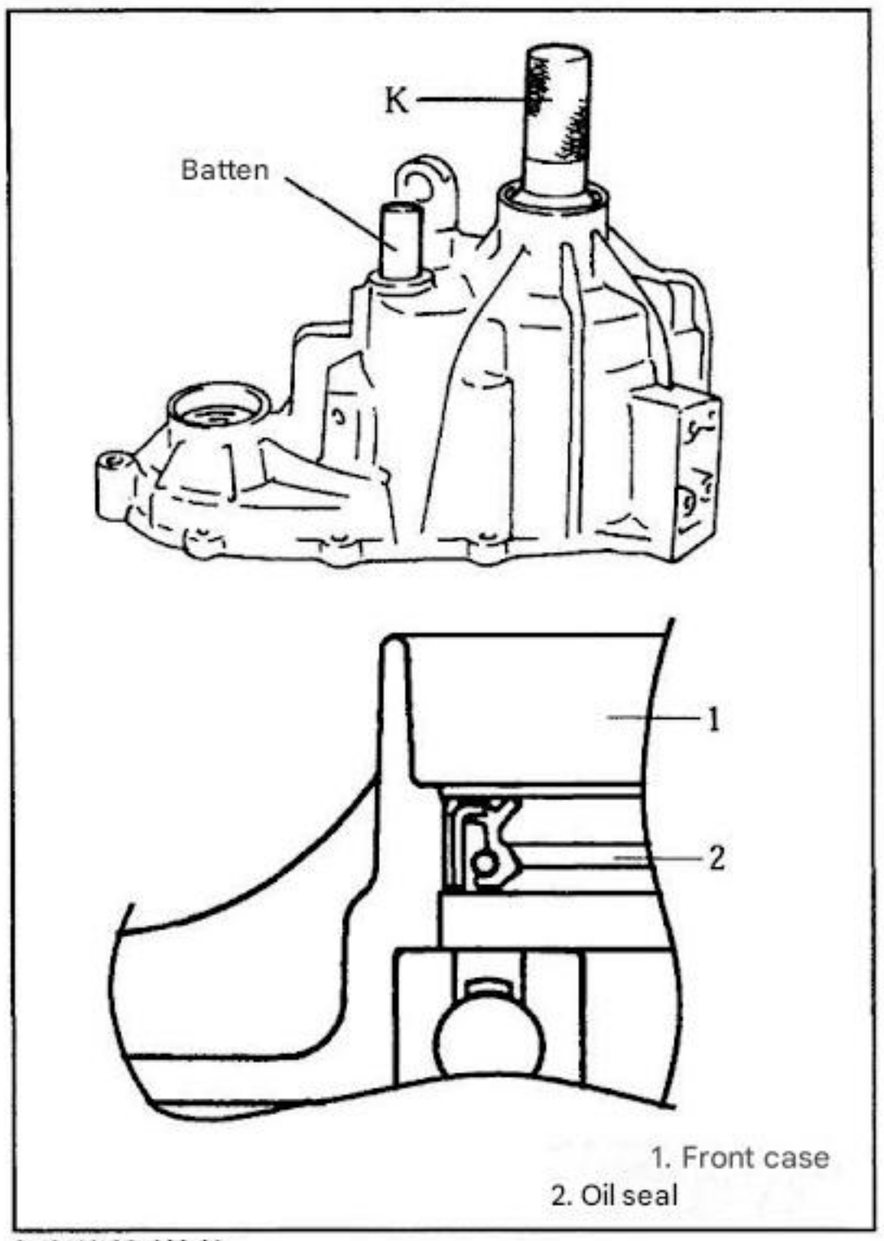
Machine Translated by Google



2-48406-2D-026-10

3. Install the snap ring.

Special Tools E:09900-06108



2-48406-2D-026-20

4. Use the special tool and hammer to drive each oil seal into the front case.

Apply grease to the seal lip.

Note: Pay attention to the depth of the insertion.

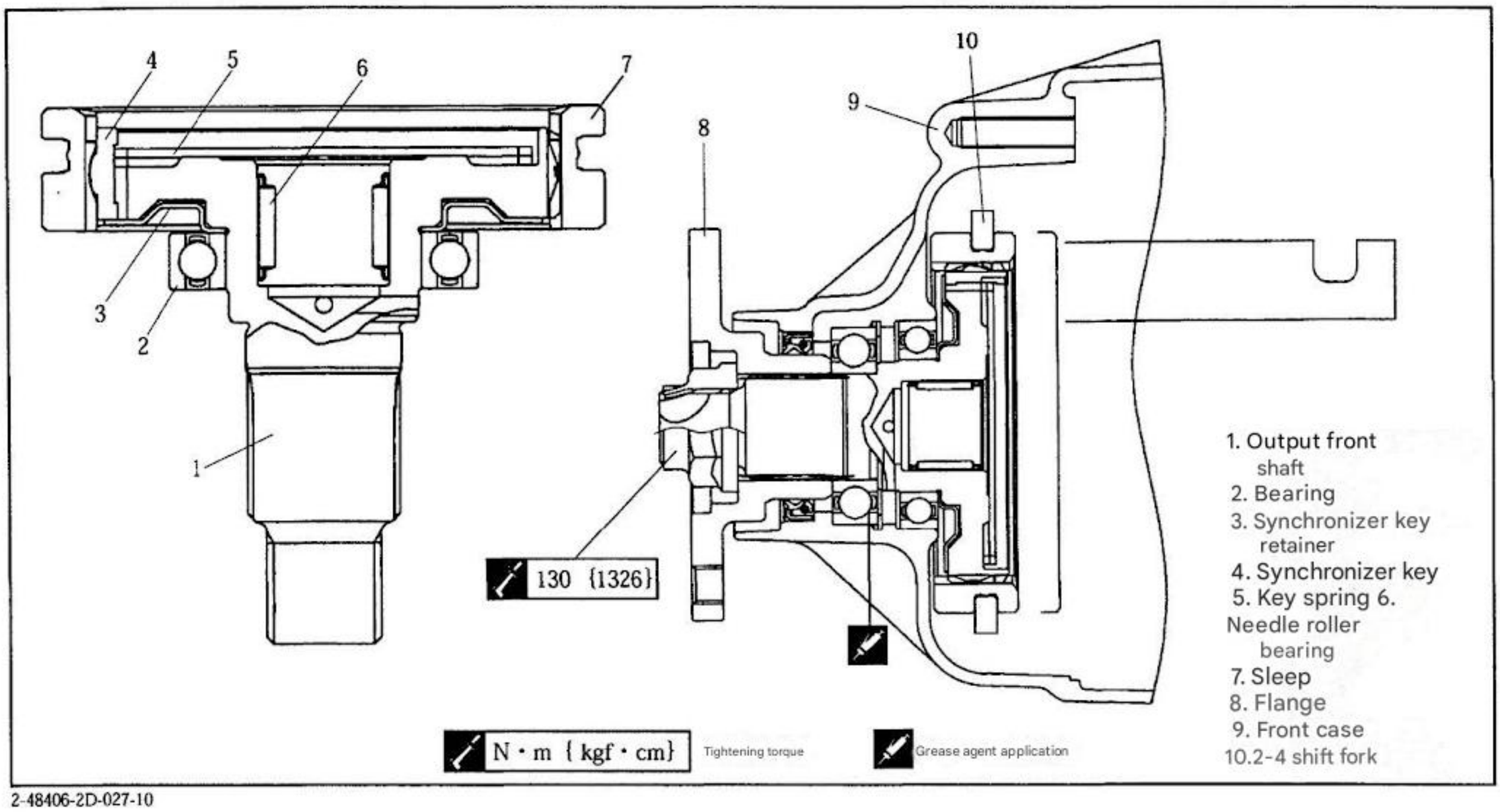
- Pay attention to the direction of the oil seal.

Special Tool K: 09913-75810

Grease (Suzuki Super Grease A): 99000-25010

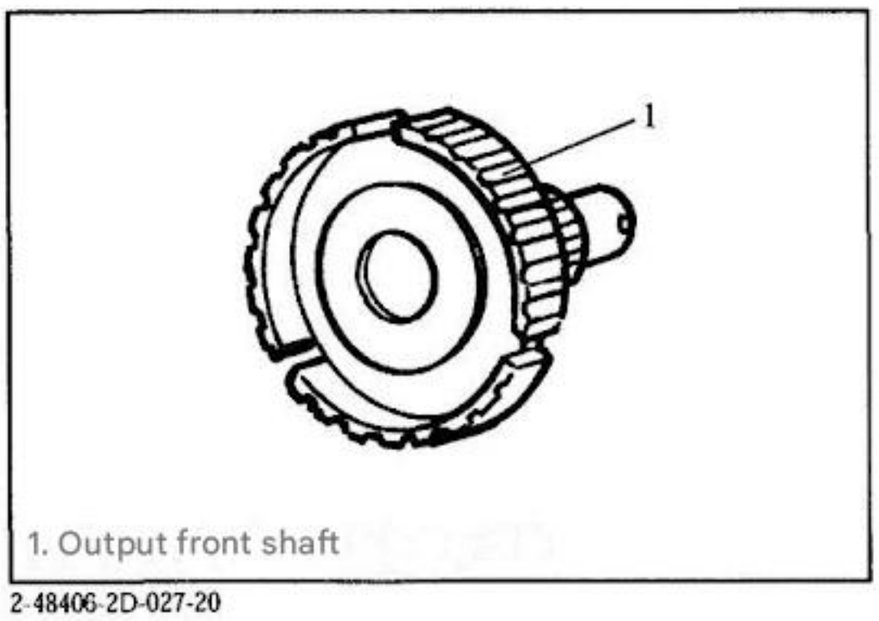
Machine Translated by Google

output front shaft



1. Output front shaft
2. Bearing
3. Synchronizer key retainer
4. Synchronizer key
5. Key spring 6. Needle roller bearing
7. Sleep
8. Flange
9. Front case
10. 2-4 shift fork

2-48406-2D-027-10

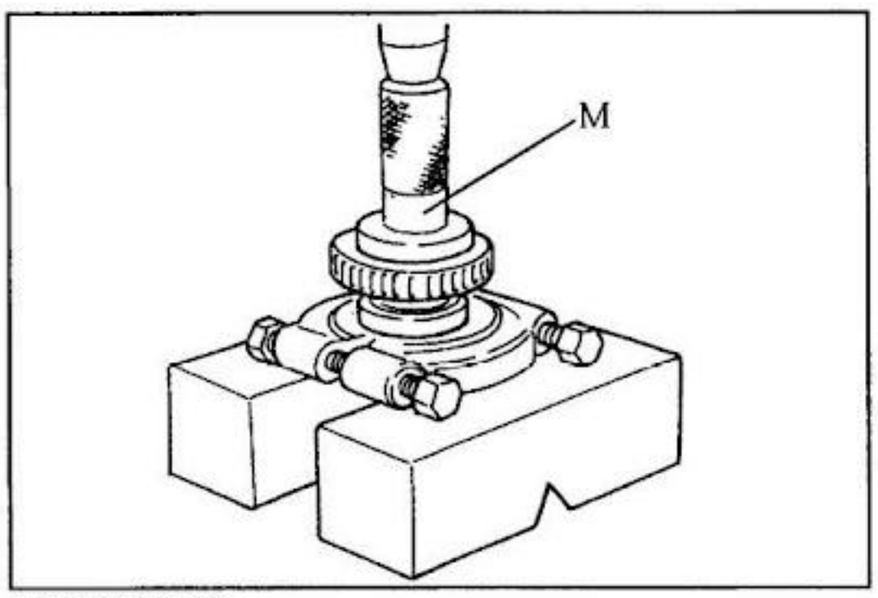


1. Output front shaft

2-48406-2D-027-20

1. Check the output front shaft for scratches, distortions, cracks or damage.

If there is any abnormality, replace it with a new one.



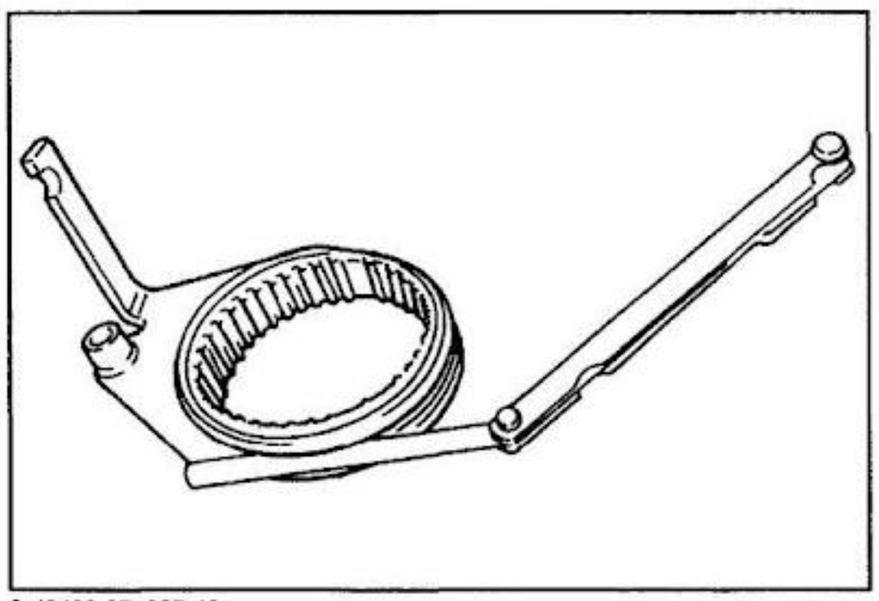
2-48406-2D-027-30

2. Using the special tool, bearing puller and press, insert the synchronizer key retainer onto the output front shaft, and then press in the bearing.

Note: Press only the inner race.

- Check that the synchronizer key retainer is secured by the bearing.

Special Tools M:09913-75520



2-48406-2D-027-40

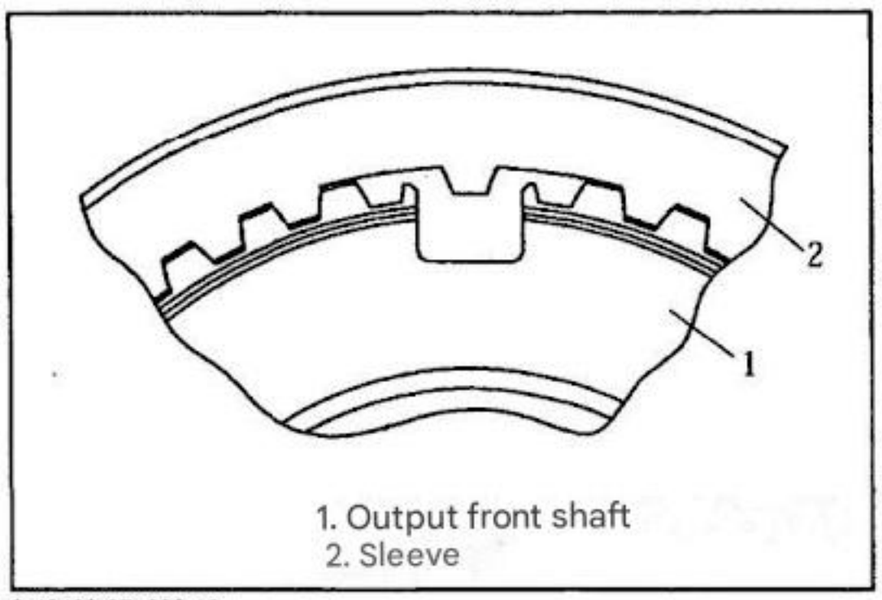
3. Measure the clearance between the sleeve and the 2-4 shift fork.

Reference value (mm): 0.1~0.4

Usage limit (mm): 0.5

If the limit of use has been exceeded, replace the sleeve and 2-4 shift fork as a set with new ones.

Machine Translated by Google

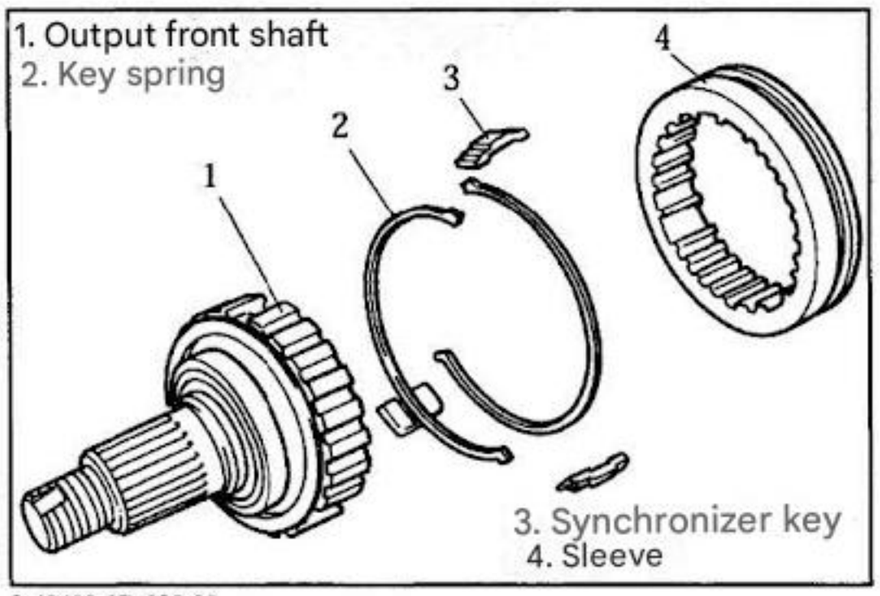


1. Output front shaft
2. Sleeve

2-48406-2D-028-10

4. Align the spline keyway of the output front shaft with the missing teeth section of the sleeve (3 places).

Note: Pay attention to the front-to-back direction of the sleeve.

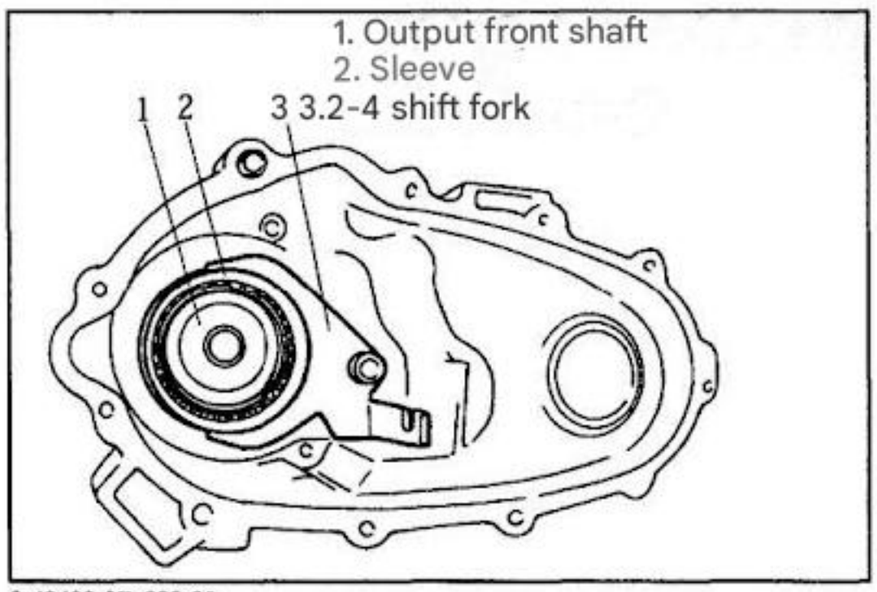


2-48406-2D-028-20

5. Insert the synchronizer keys (3 places) into the splined keyways of the output front shaft, and install the key springs (2 pcs).

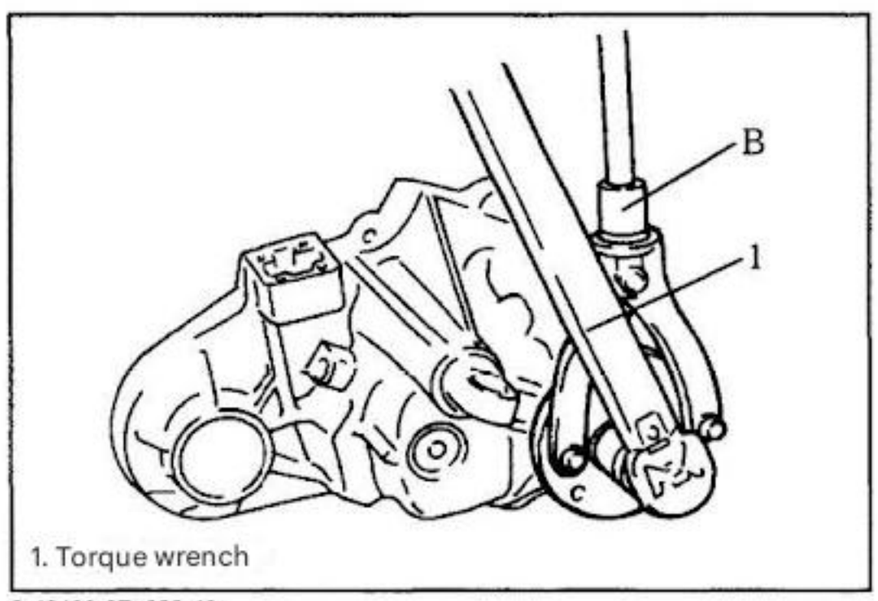
Note: Do not align the openings of the key spring.

- Two key springs are in contact with all synchronizer keys.
- Make sure that the two key springs are inserted into the recesses of the synchronizer key.



2-48406-2D-028-30

6. Install the output front shaft, sleeve, and 2-4 shift fork as a set to the front case.



2-48406-2D-028-40

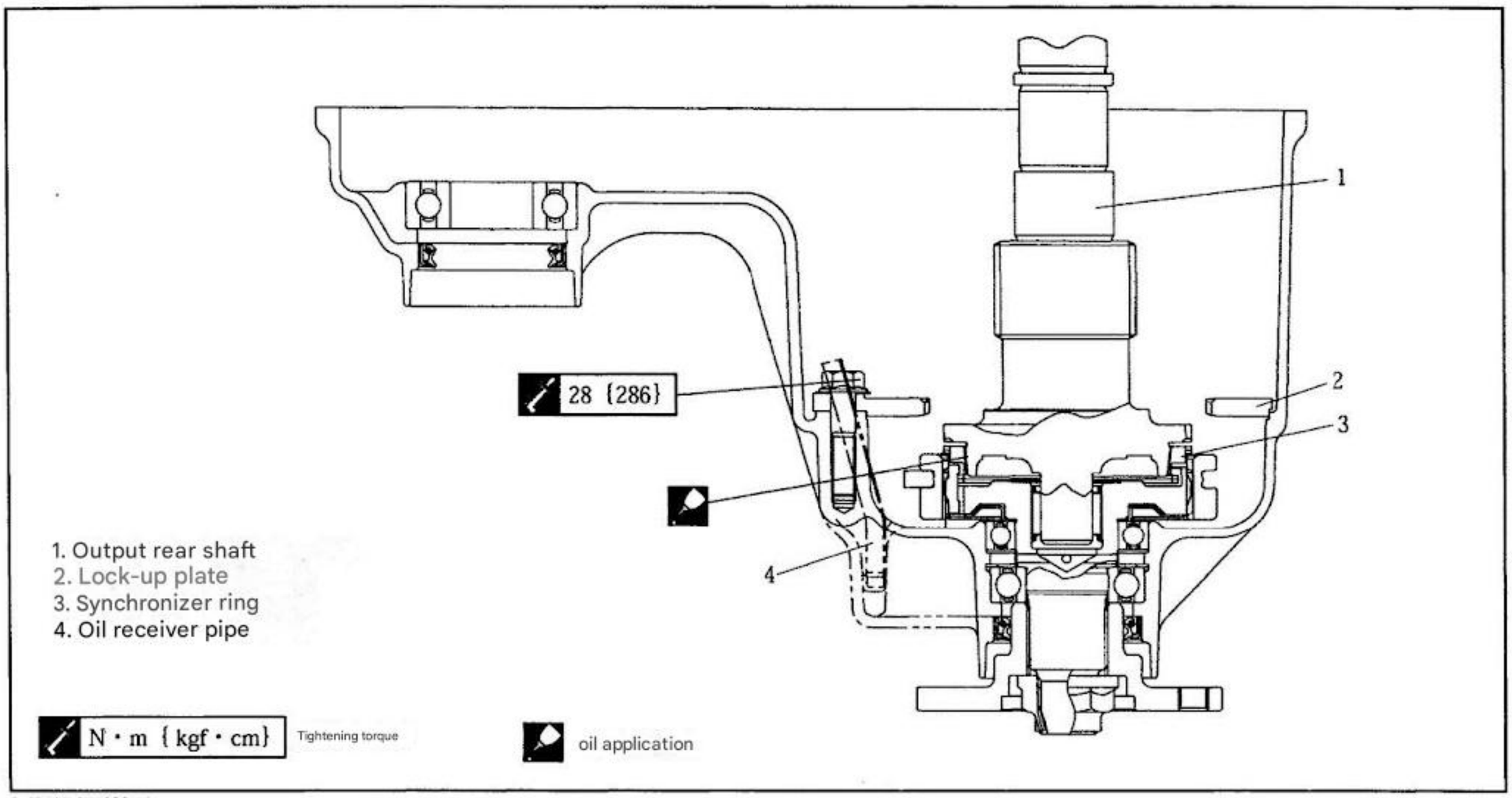
7. Install the flange and tighten the flange nuts to the specified torque.

Note: Be sure to crimp the flange nuts securely (2 places).

Special Tool B: 09930-40113

Tightening torque: 130Nm (1326kgf.cm}

output rear shaft

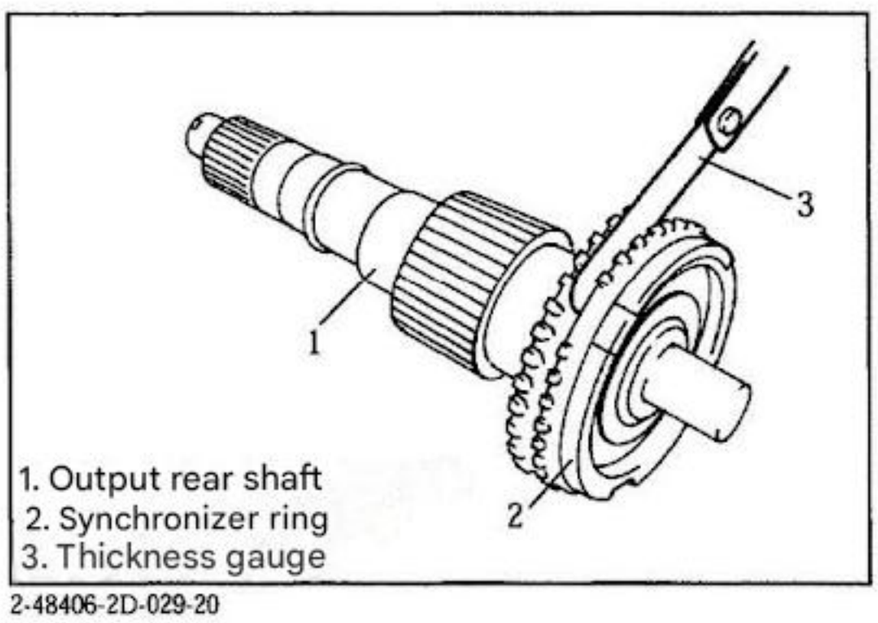


1. Output rear shaft
2. Lock-up plate
3. Synchronizer ring
4. Oil receiver pipe

N · m { kgf · cm} Tightening torque

oil application

2-48406-2D-029-10



1. Output rear shaft
2. Synchronizer ring
3. Thickness gauge

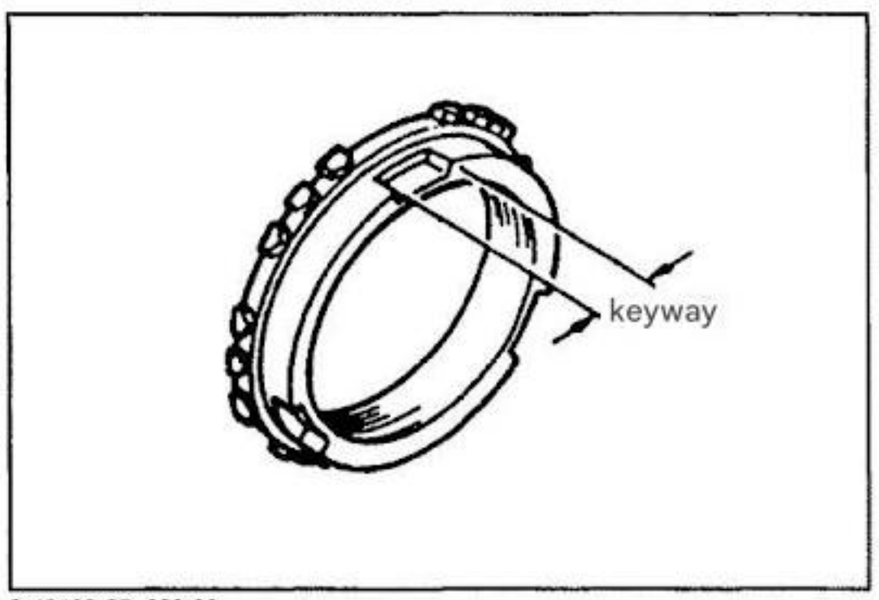
2-48406-2D-029-20

1. Install the synchronizer ring onto the output rear shaft and measure the clearance.

Reference value (mm): 0.85~1.55

Usage limit (mm): 0.75

If the usage limit is exceeded, replace the synchronizer ring.



2-48406-2D-029-30

2. Measure the width of the keyway of the synchronizer ring.

Standard value (mm) : 12.2~12.4

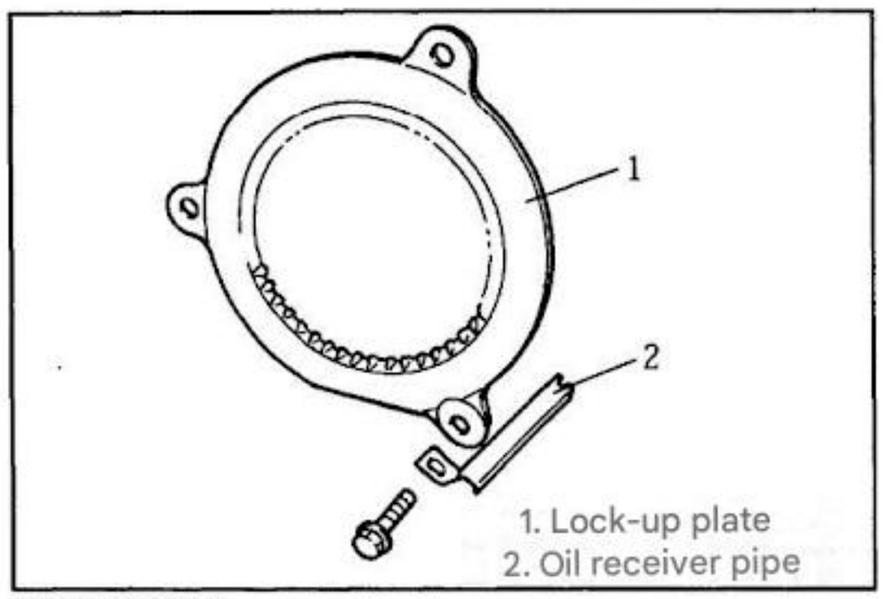
Usage limit (mm): 12.6

If the usage limit is exceeded, replace the synchronizer ring.

3. Visually check the lock-up plate and output rear shaft for damage.

If damaged, replace with a new one.

Machine Translated by Google



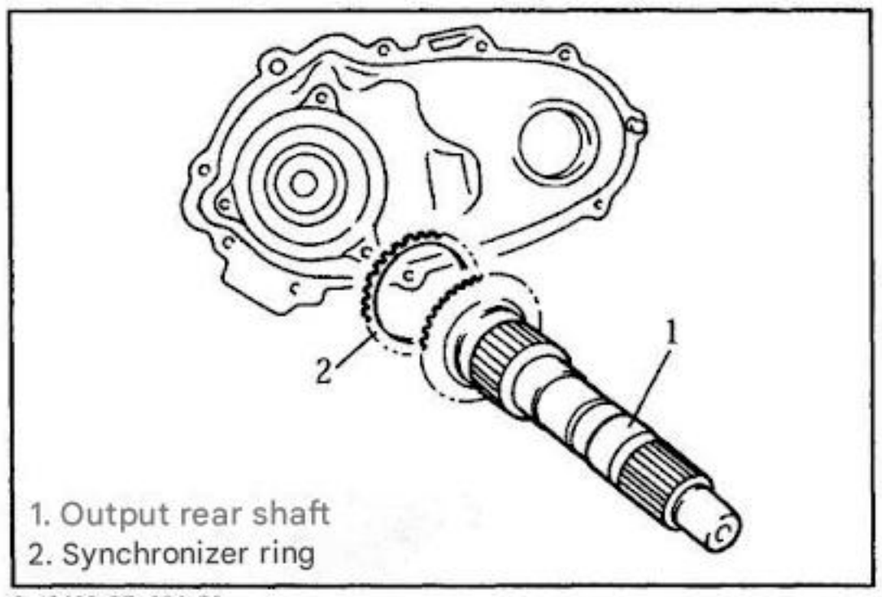
1. Lock-up plate
2. Oil receiver pipe

2-48406-2D-030-10

4. Make sure to insert the end of the oil receiver pipe securely into the front case oil groove, and then tighten it together with the lock-up plate.

Note: Pay attention to the front and back of the lock-up plate and the position of the alignment marks.

Tightening torque: 28Nm (286kgf.cm}



1. Output rear shaft
2. Synchronizer ring

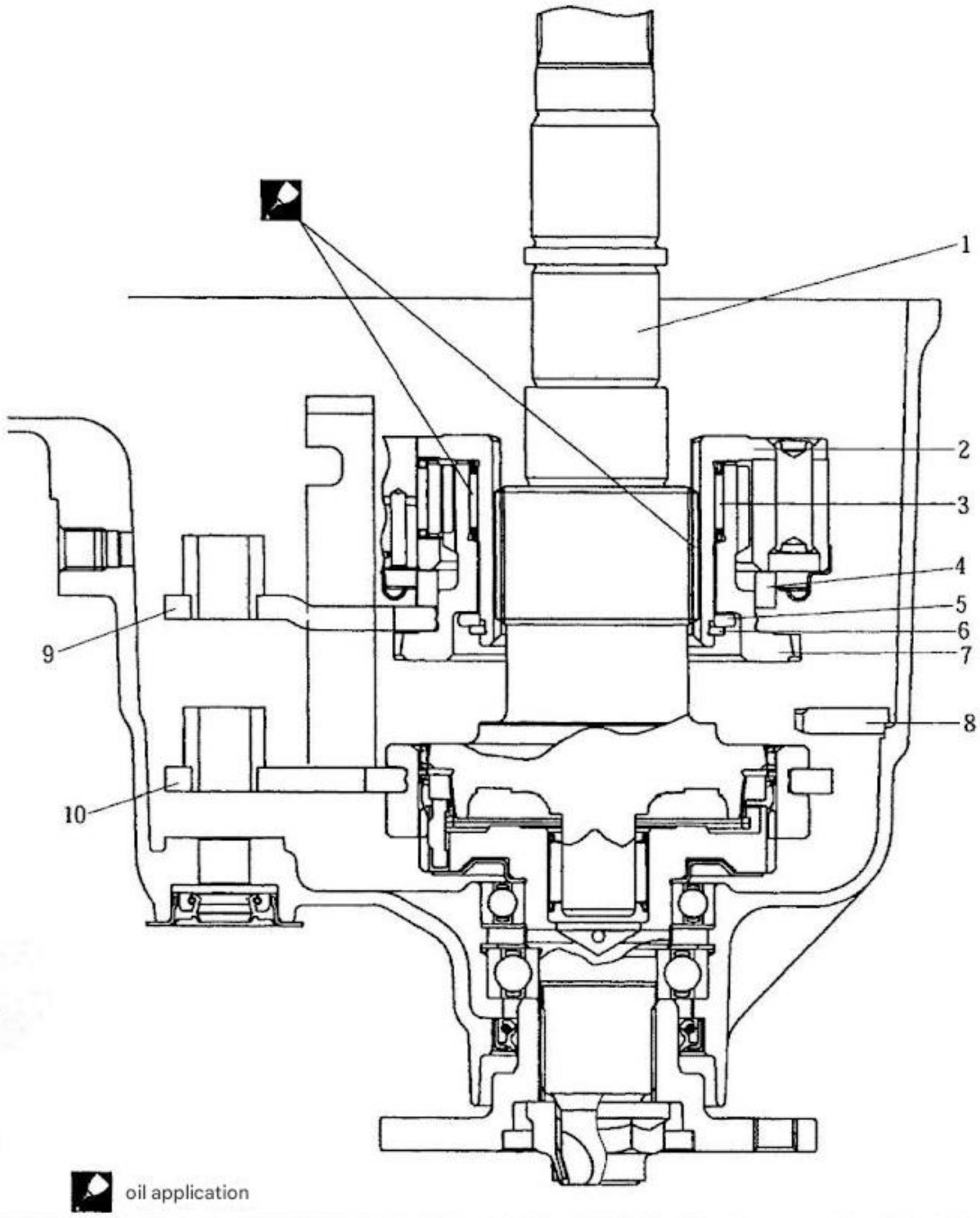
2-48406-2D-030-20

5. Align the synchronizer ring key groove with the synchronizer key, then install it, and assemble the output rear shaft.

Note: Apply gear oil to the cone part of the synchronizer ring.

Machine Translated by Google

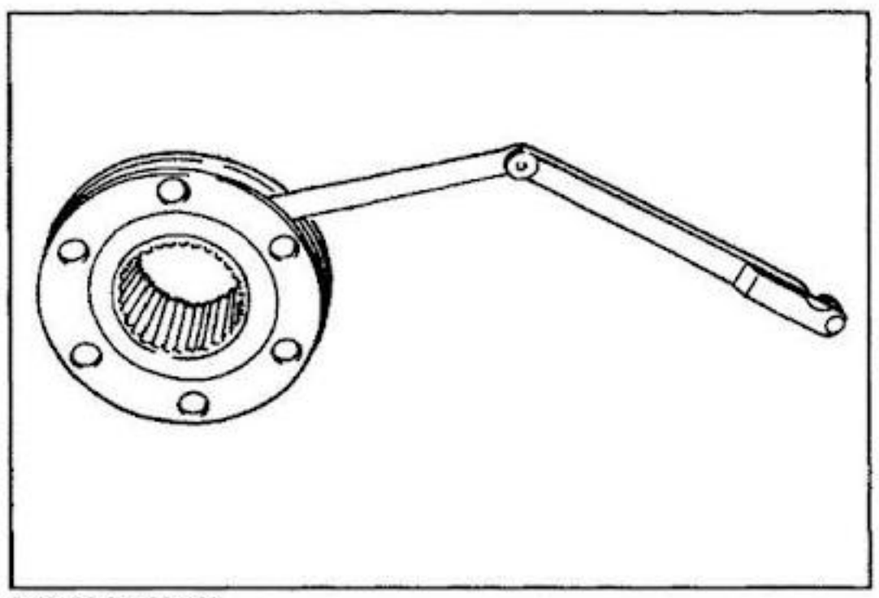
Planetary gear unit/shift fork



1. Output rear shaft
2. Planetary Carrier
3. Needle roller bearings
4. Shift fork spacer
5. Thrust washer
6. Snap ring
7. Sun gear
8. Lock-up plate
9. Hi-Lo shift fork
10. 2-4 shift fork

oil application

2-48406-2D-031-10

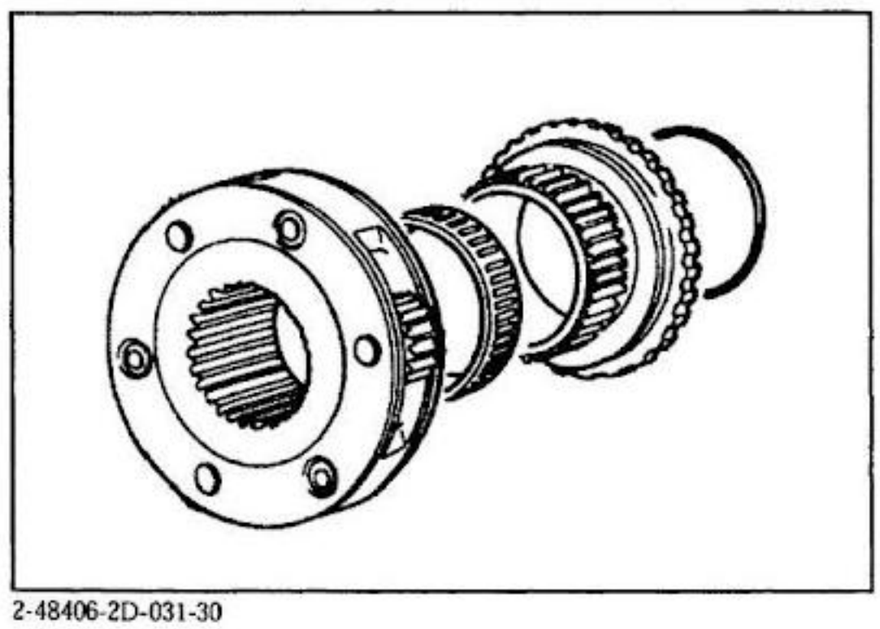


2-48406-2D-031-20

1. Measure the thrust clearance between the pinion gear and the carrier.

Reference value (mm): 0.15~0.55

If it is outside the standard value, replace it with a new planetary carrier sub-assembly.



2-48406-2D-031-30

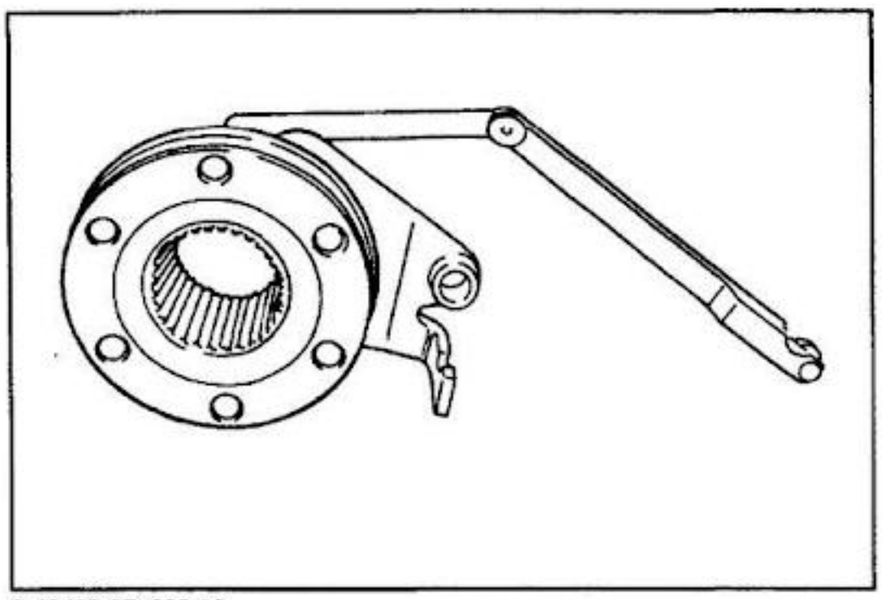
2. Install the needle roller bearing, shift fork spacer, and sun gear to the carrier.

Note: Apply gear oil to the rolling surfaces of the needle roller bearings and each sliding surface before assembly.

3. Insert the thrust washer and secure it with the snap ring.

Special Tool H:09900-06107

Machine Translated by Google

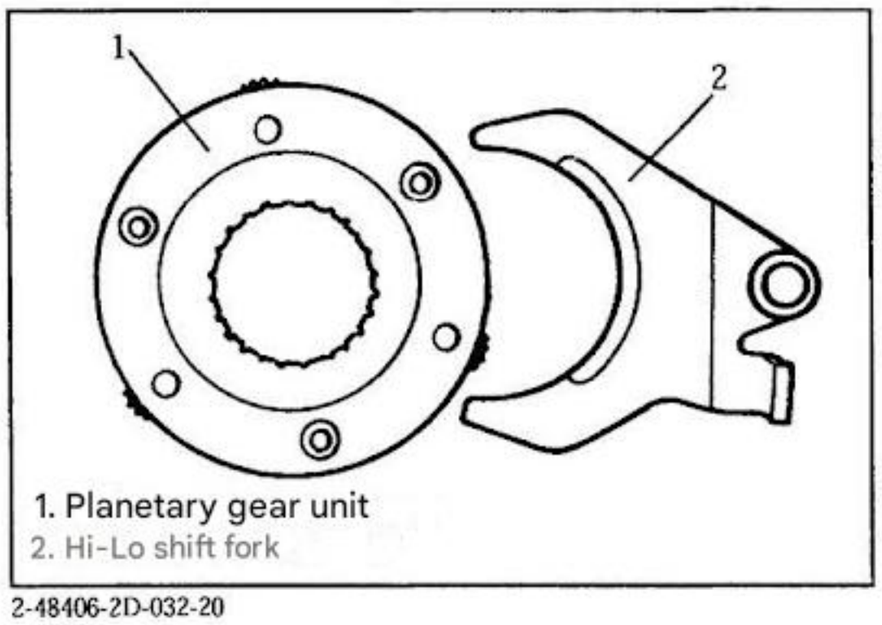


2-48406-2D-032-10

4. Install the Hi-Lo shift fork between the sun gear and shift fork spacer of the planetary gear unit, and measure the gap.

Usage limit (mm): 1.0

If the limit of use has been exceeded, the Hi-Lo shift fork and the Sanguiner planetary gear unit will be replaced as a set with new ones.

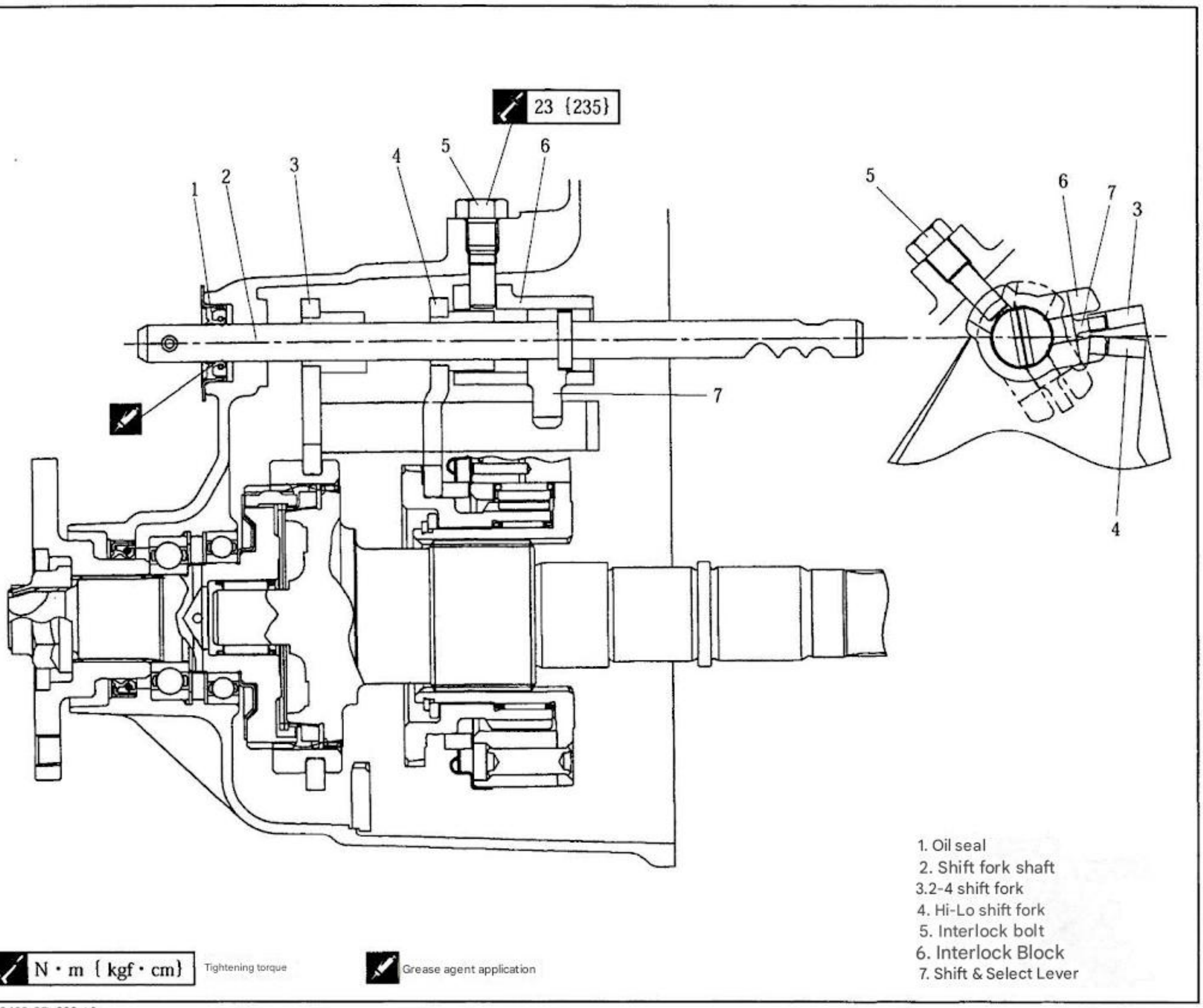


1. Planetary gear unit
2. Hi-Lo shift fork

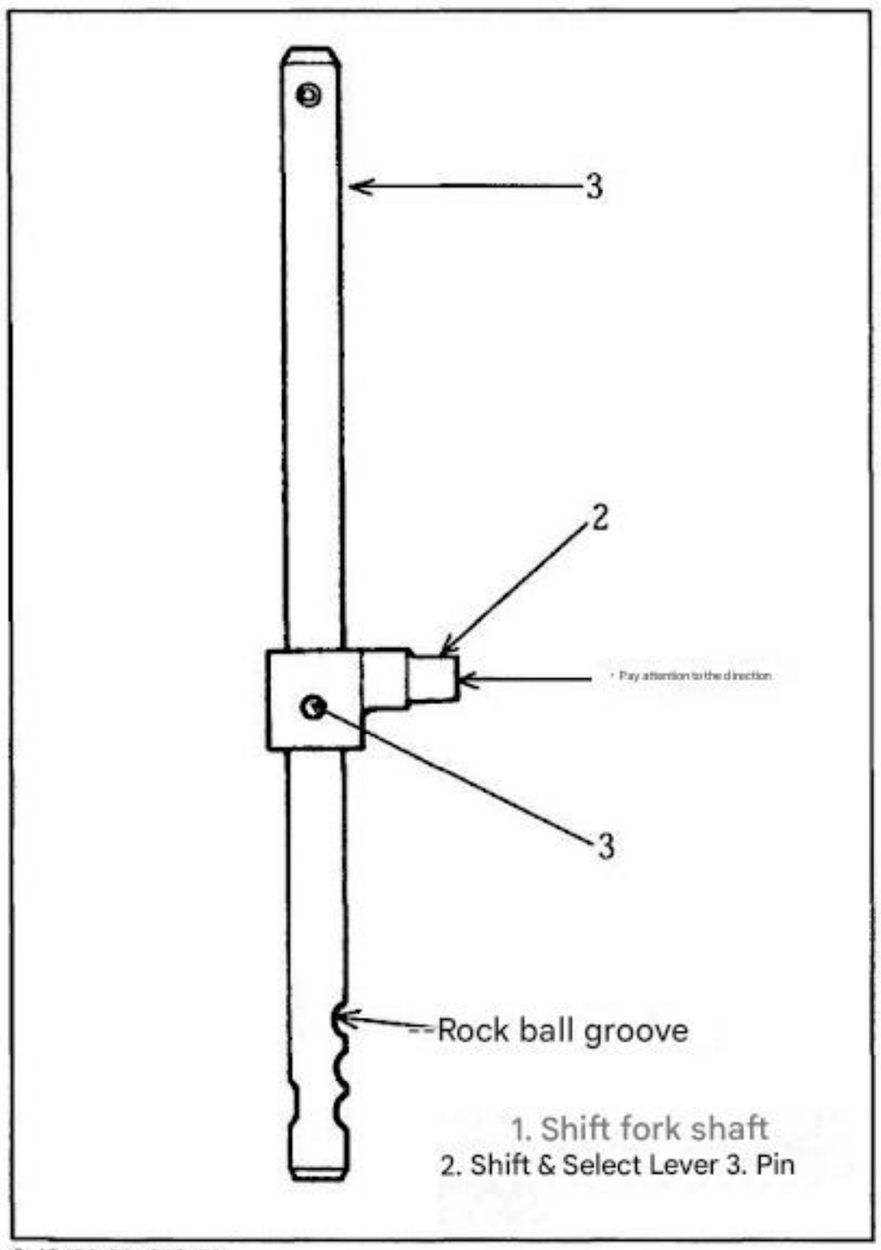
2-48406-2D-032-20

5. Place the Hi-Lo shift fork between the sun gear and the shift fork spacer, and install the planetary gear unit into the front case (output rear shaft).

Interlock block/shift fork shaft



2-48406-2D-033-10



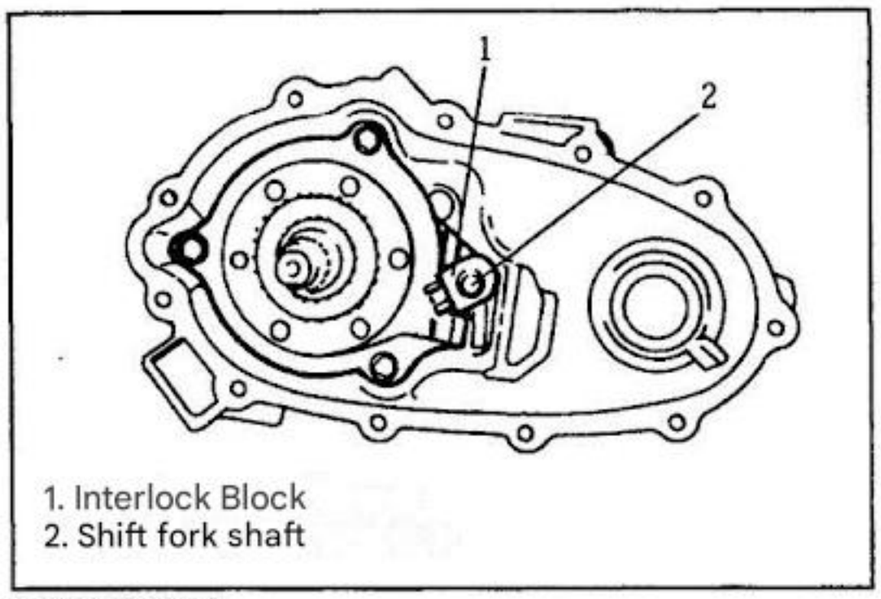
2-48406-2D-033-20

1. Install the shift & select lever onto the shift fork shaft, and drive in the pin.

Note: · Pay attention to the direction.

- Assemble so that the lever claw is in the direction of the lock ball groove.

Machine Translated by Google

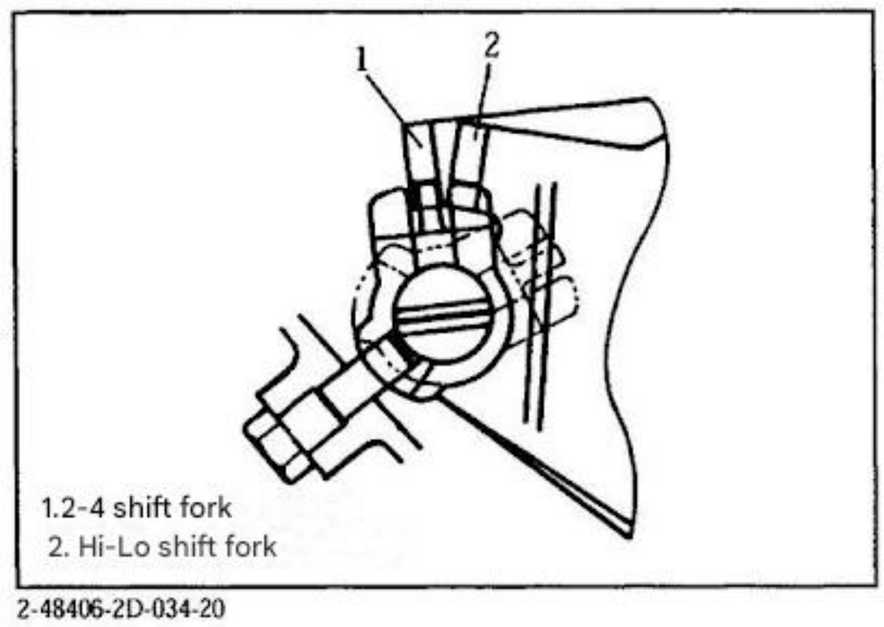


1. Interlock Block
2. Shift fork shaft

2-48406-2D-034-10

2. Attach the interlock block to the shift fork shaft, pass it through the Hi-Lo shift fork and 2-4 shift fork, and install it to the front case.

Note: Check the grease on the lip of the oil seal.



1.2-4 shift fork
2. Hi-Lo shift fork

2-48406-2D-034-20

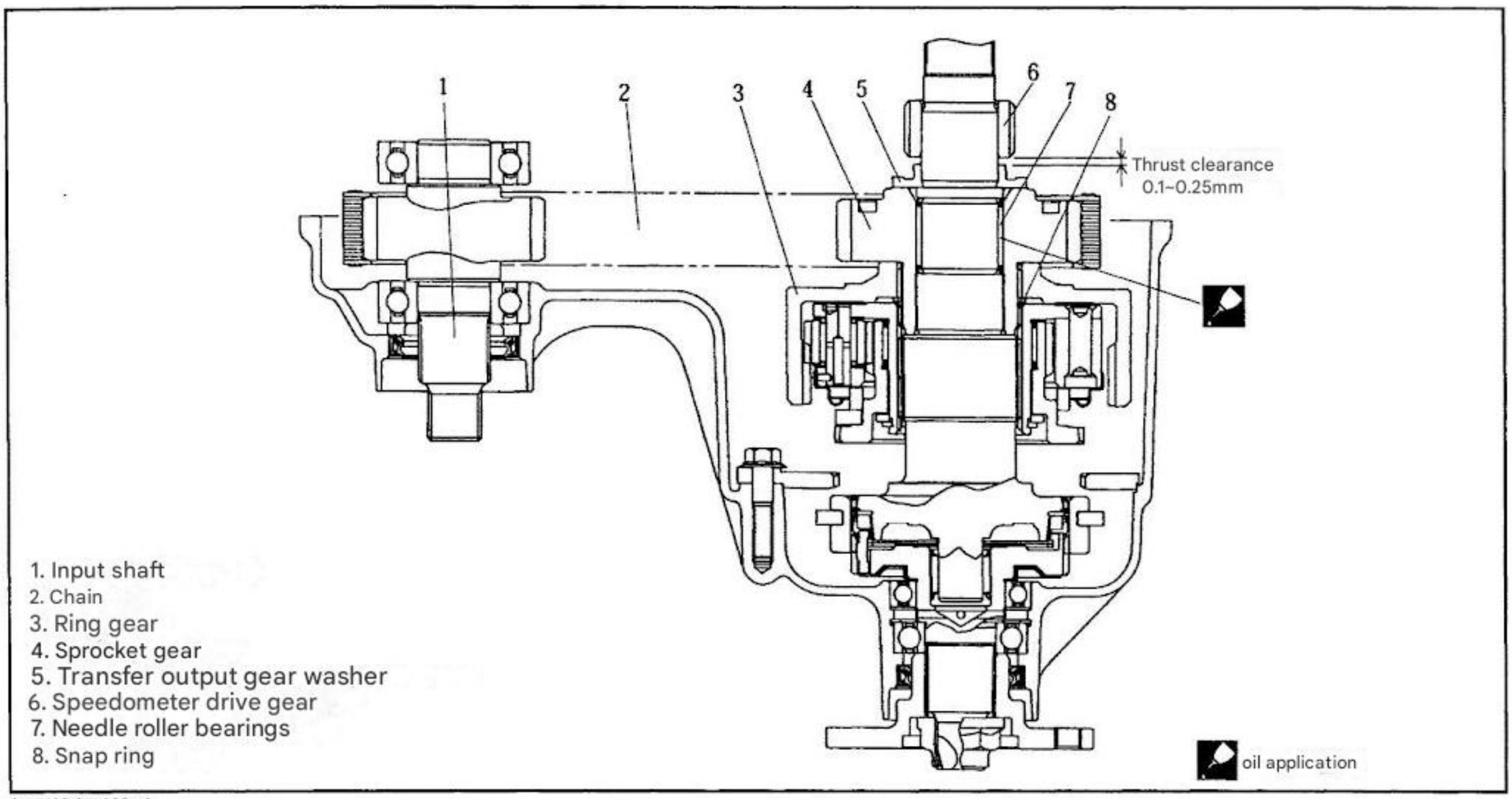
3. Rotate the interlock block, shift fork shaft, and shift & select lever to fit them into the grooves of the 2-4 shift fork and Hi-Lo shift fork, and then tighten the interlock bolt so that it fits into the oblong hole in the interlock block.

Tightening torque: 23Nm (235kgf.cm)

Note: It is easier to assemble if you pull the 2-4 shift fork and Hi-Lo shift fork out slightly. (4H condition)

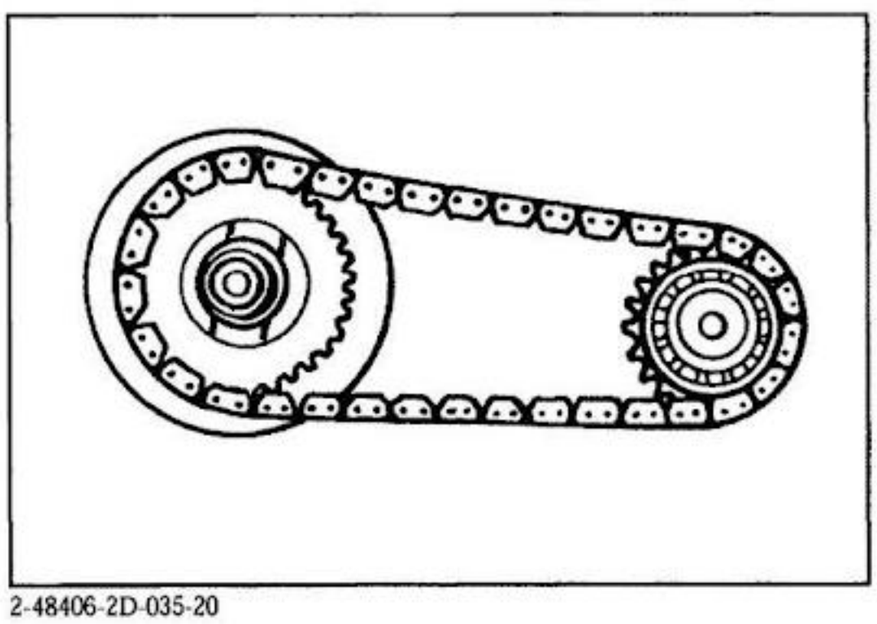
Machine Translated by Google

Input shaft/sprocket gear/drive chain



1. Input shaft
2. Chain
3. Ring gear
4. Sprocket gear
5. Transfer output gear washer
6. Speedometer drive gear
7. Needle roller bearings
8. Snap ring

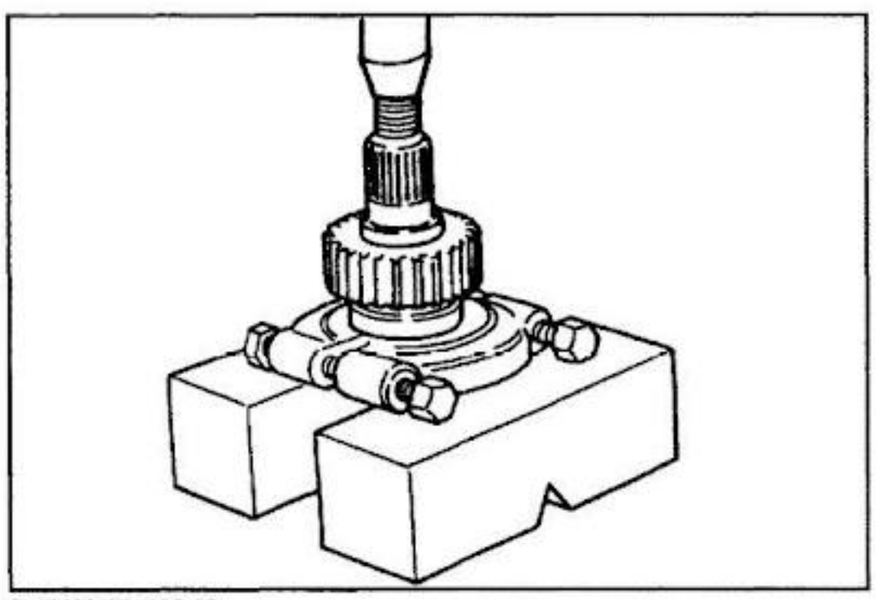
2-48406-2D-035-10



2-48406-2D-035-20

1. Visually check the sprocket gears, chain, etc. for damage.

If any abnormality is found, replace it with a new one.

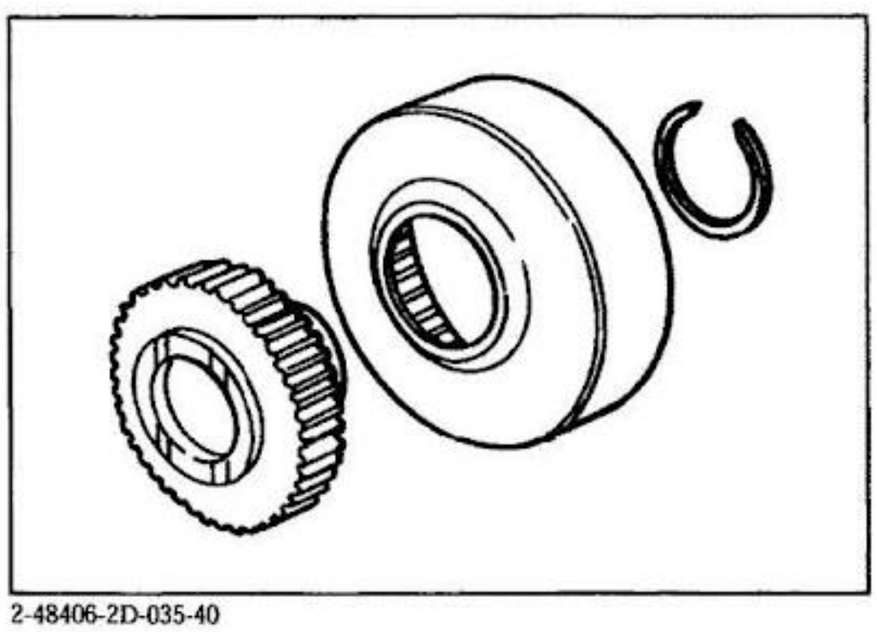


2-48406-2D-035-30

2. Use a bearing puller and press to press the bearing onto the input shaft.

Note: Check the bearings for any abnormalities, and if any are found, replace them with new ones.

- When pressing, press only the inner race.



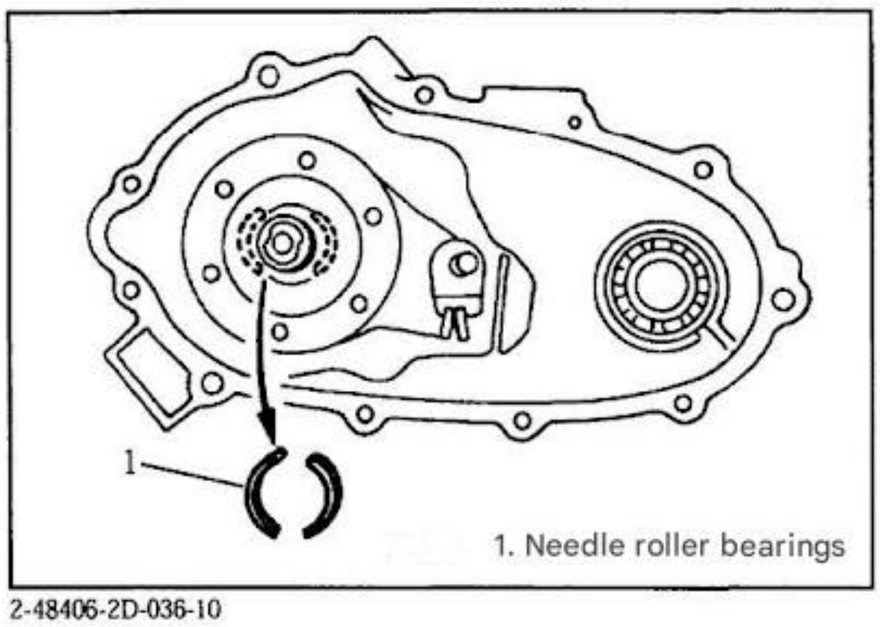
2-48406-2D-035-40

3. Assemble the ring gear and sprocket gear.

Special Tools G: 09920-76010

Note: Make sure the snap ring is securely in the groove.

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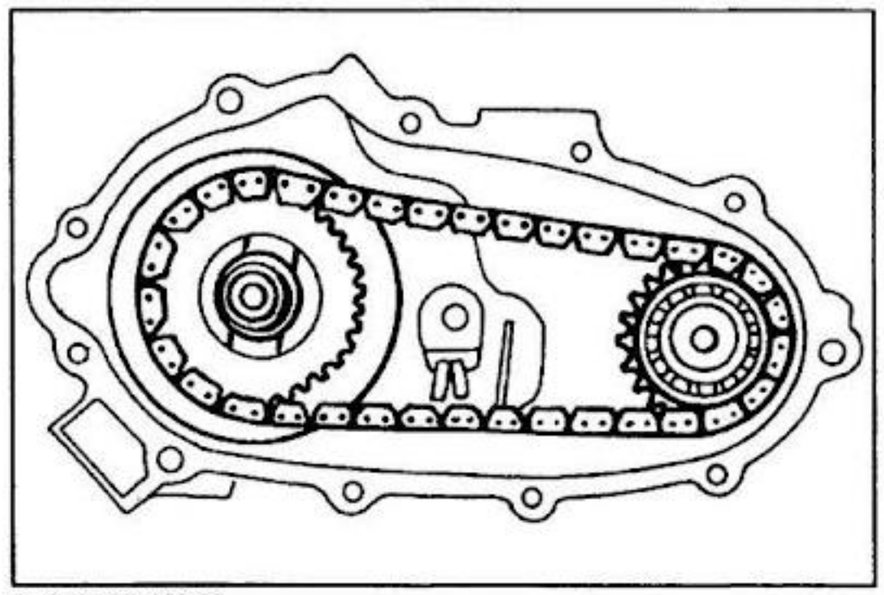


1. Needle roller bearings

2-48406-2D-036-10

4. Check the needle roller bearing for any looseness, sticking, damage, or abnormal noises. If any abnormality is found, replace it with a new one.

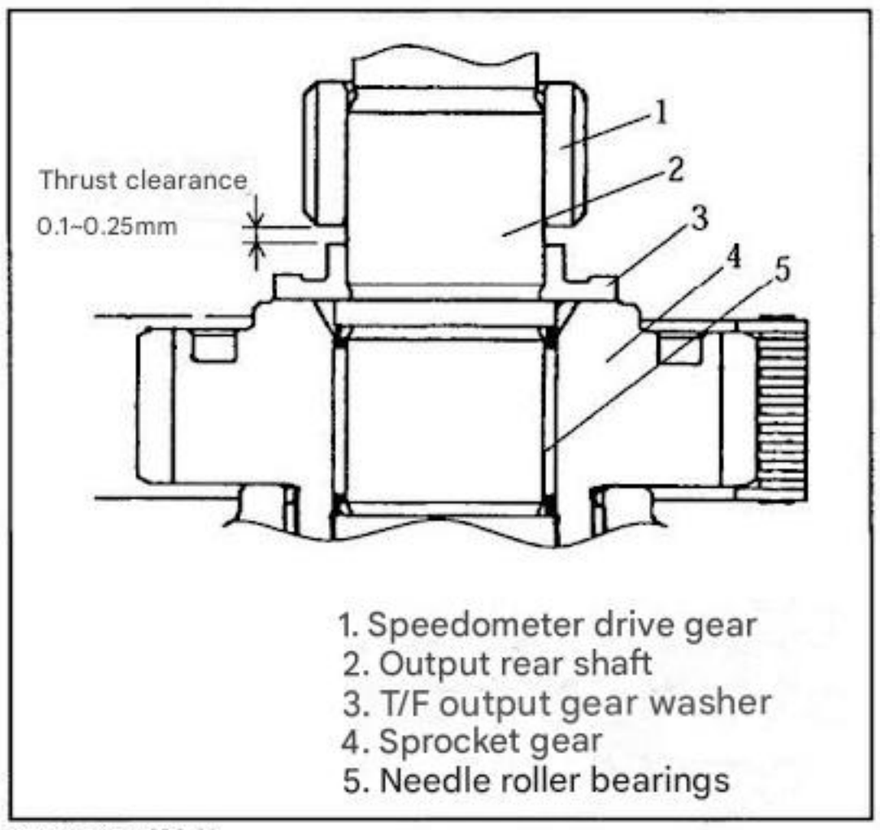
5. Install the needle roller bearing onto the output rear shaft.



2-48406-2D-036-20

6. Install the sprocket and chain.

Note: Make sure the sprocket and chain teeth are securely engaged.



1. Speedometer drive gear
2. Output rear shaft
3. T/F output gear washer
4. Sprocket gear
5. Needle roller bearings

2-48406-2D-036-30

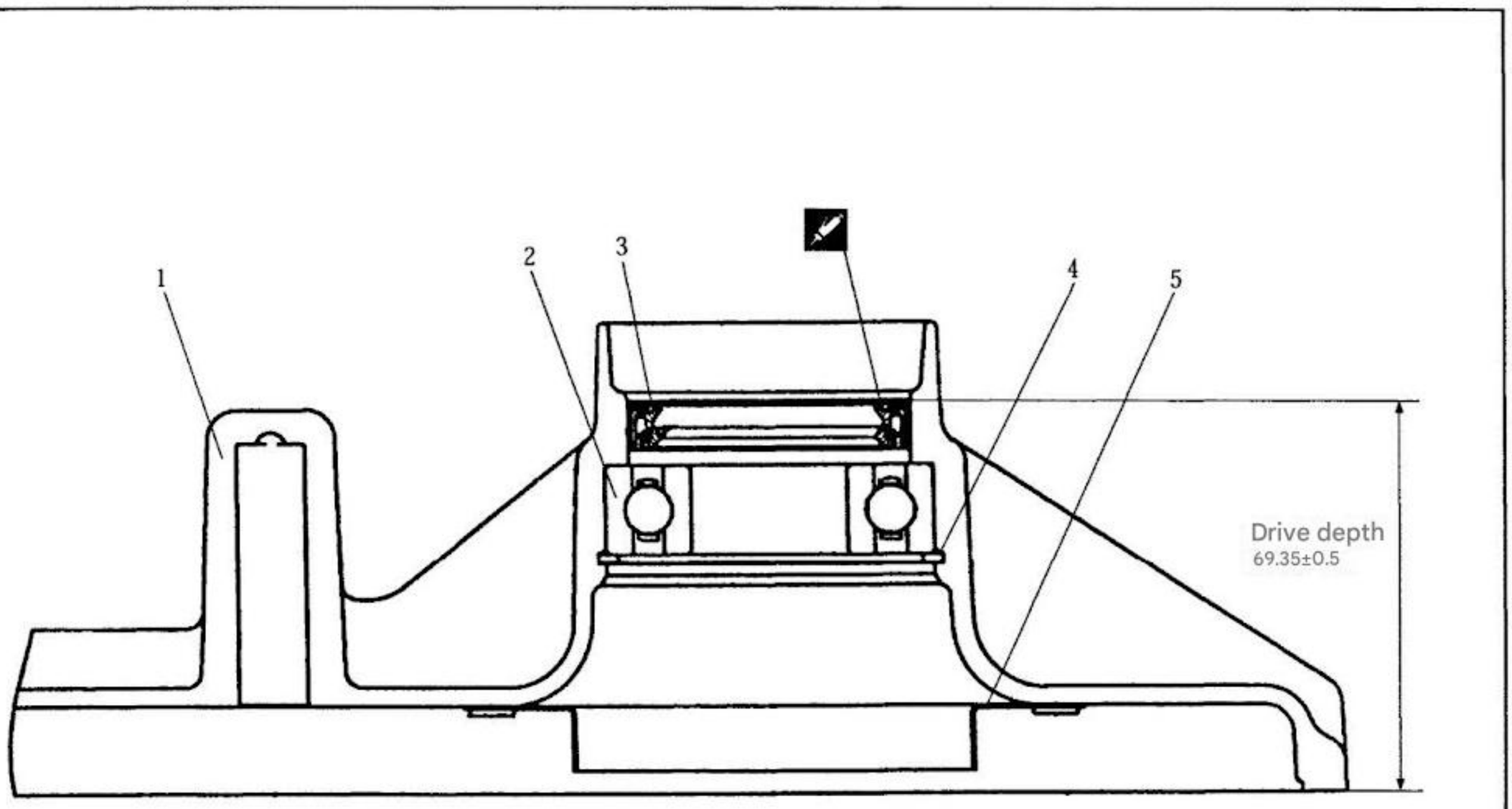
7. Install the transfer output gear washer, paying attention to the direction.

8. Install the speedometer drive gear.

Note: The speedometer drive gear is pressed in when the flange nut is tightened.

Machine Translated by Google

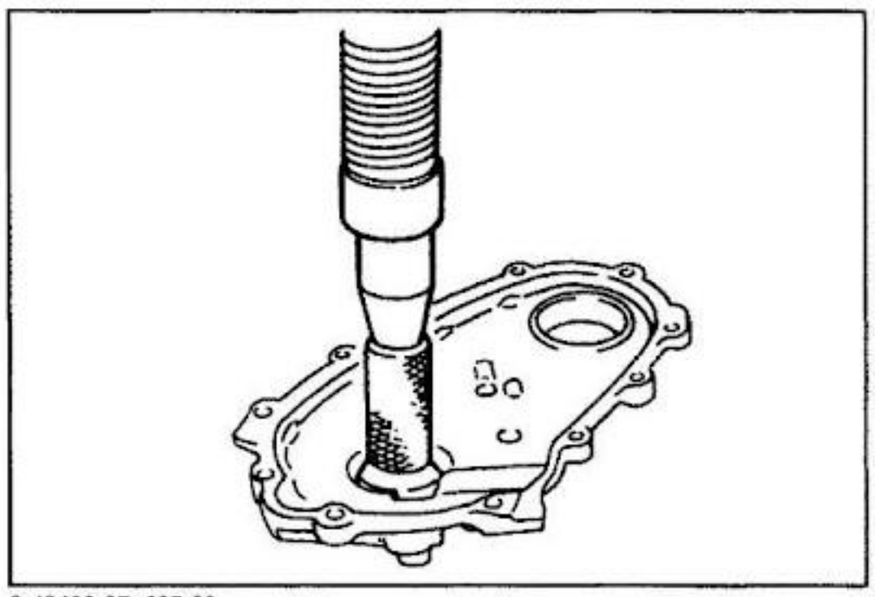
rear case



1. Rear case
2. Bearing
3. Oil seal
4. Snap ring
5. Oil receiver pipe

Grease agent application

2-48406-2D-037-10



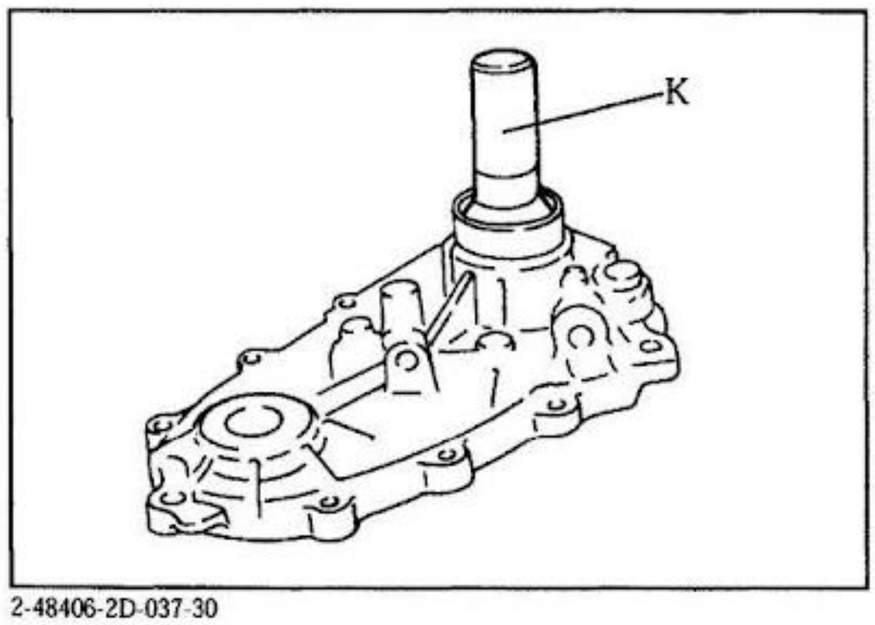
2-48406-2D-037-20

1. Install the bearing into the rear case and secure it with a snap ring.

Note: Check the bearings for any abnormalities.

Special Tool K: 09913-75810

L : 09944-66020



2-48406-2D-037-30

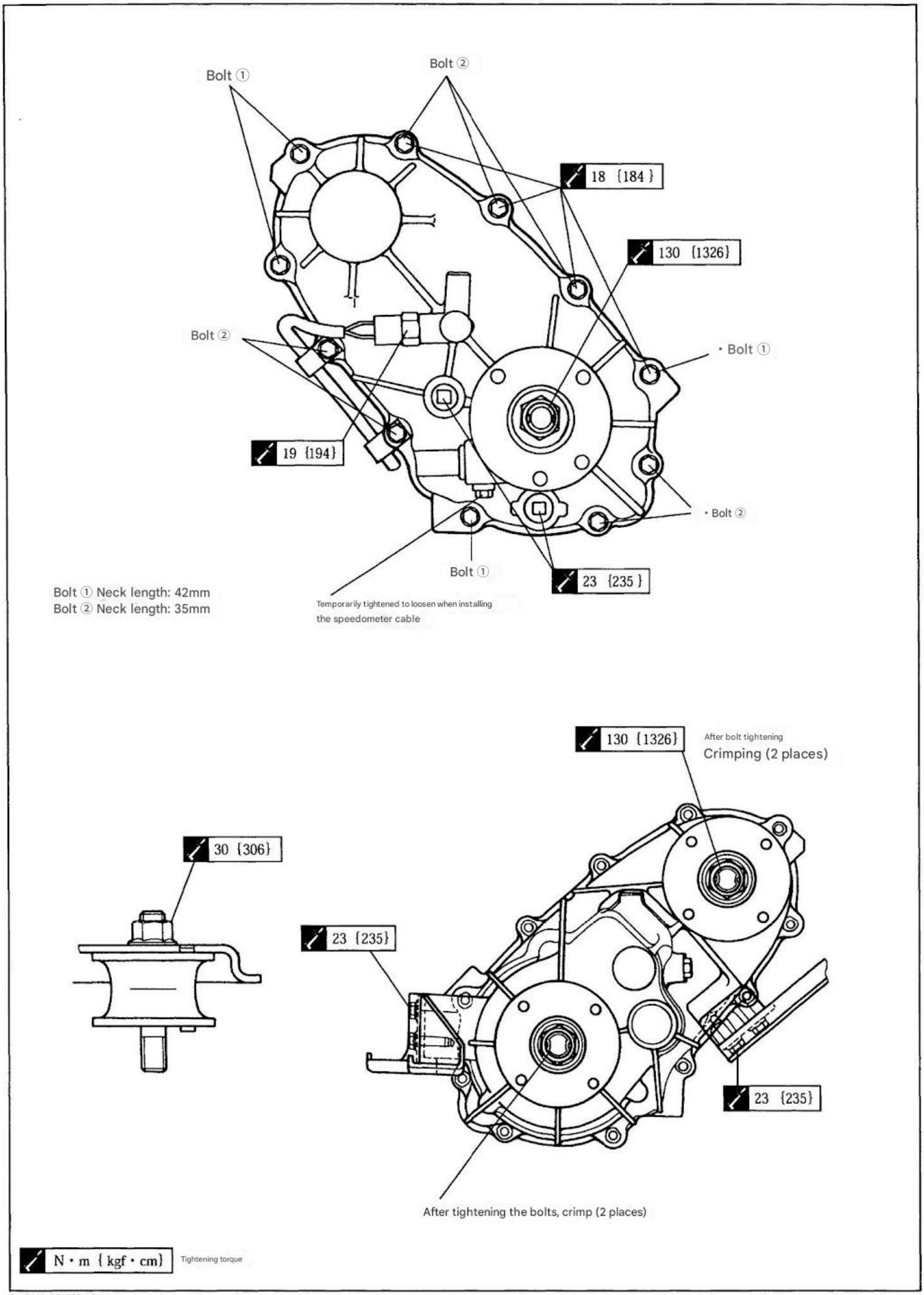
2. Use the special tool and hammer to drive in the oil seal.

Apply grease to the sealing lip.

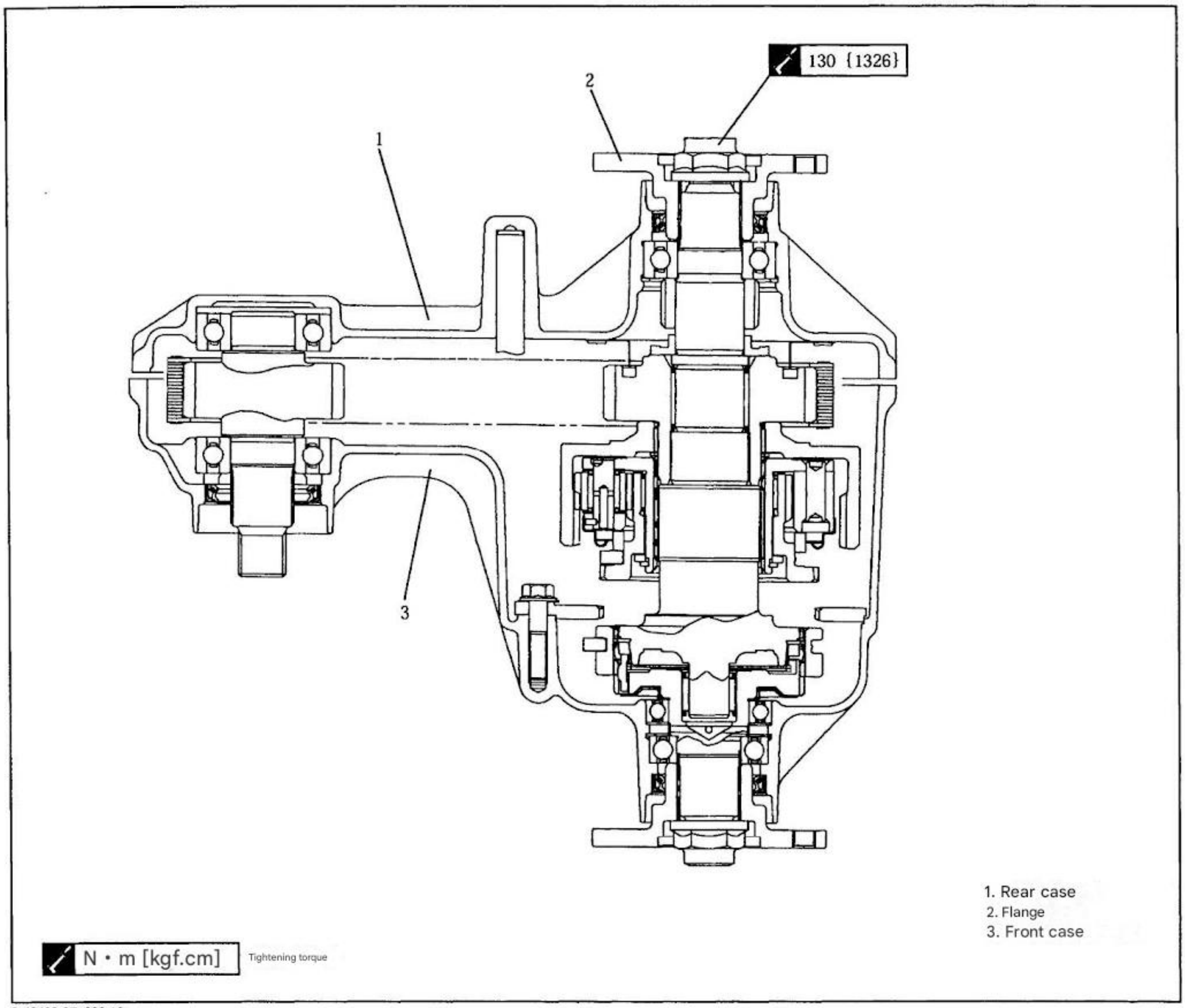
Special Tool K: 09913-75810

Note: Be careful with the depth of the plunge.

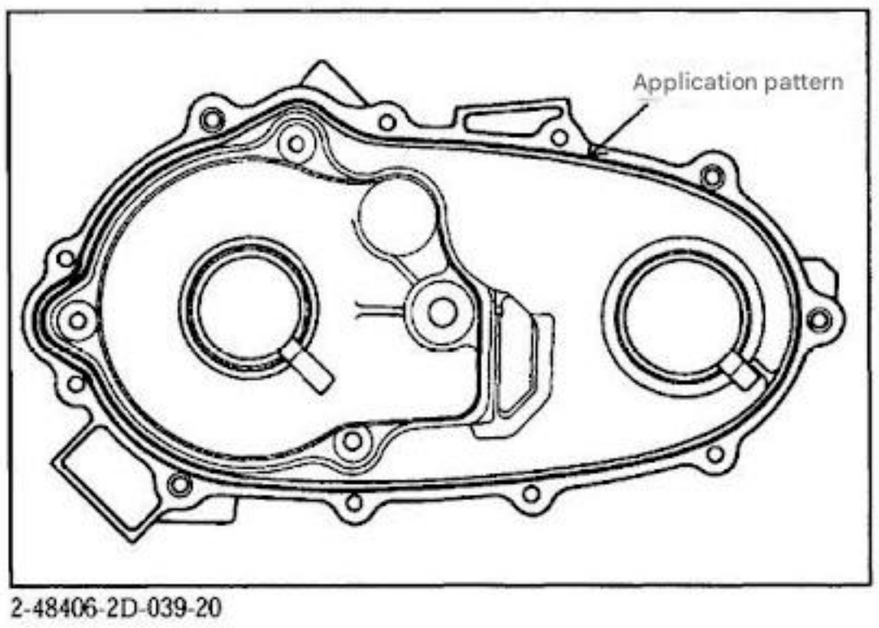
Rear case assembly/flange



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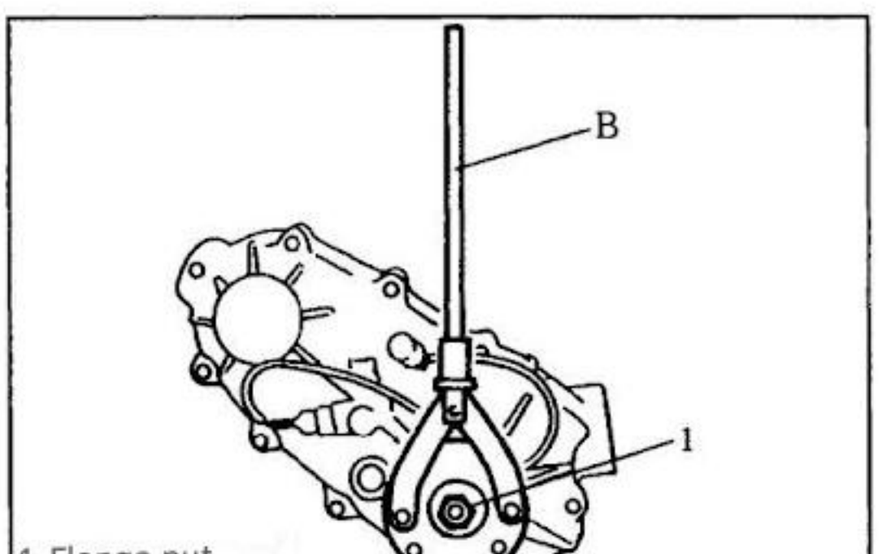
2-48406-2D-039-10



2-48406-2D-039-20

1. Apply sealant to the front case and assemble the rear case.

Note: Assemble within 10 minutes after applying sealant.



2-48406-2D-039-30

2. Use the special tool to secure the flange, and then tighten the flange nut to the specified torque.

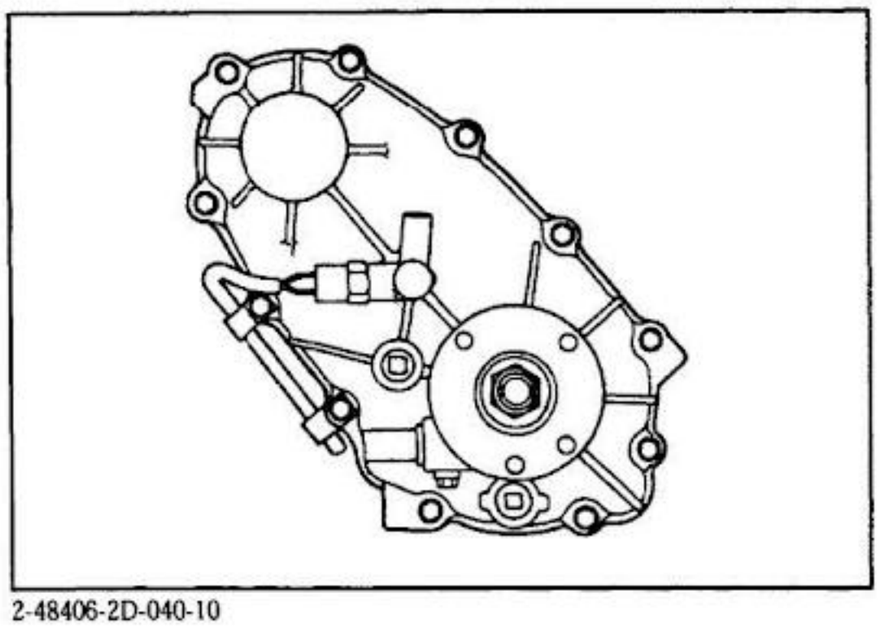
Tightening torque: 130Nm (1326kgf.cm}

Note: Be sure to crimp the flange nuts securely (2 places).

When tightening, make sure the front and rear case surfaces are aligned.

and.

Machine Translated by Google

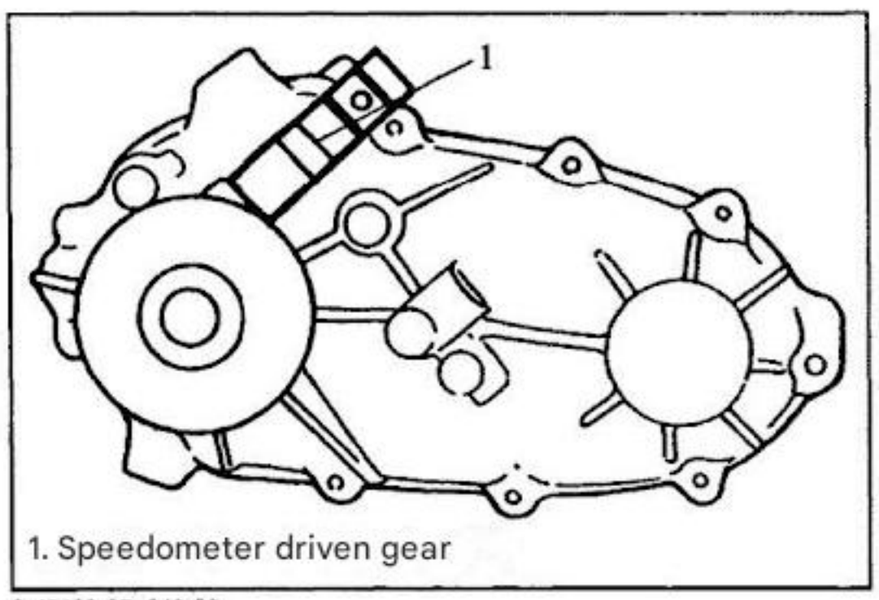


2-48406-2D-040-10

3. Tighten the rear case mounting bolts (11 pieces).

Tightening torque: 18Nm (184kgf.cm)

Note: Pay attention to the position of the bolts (2 types).

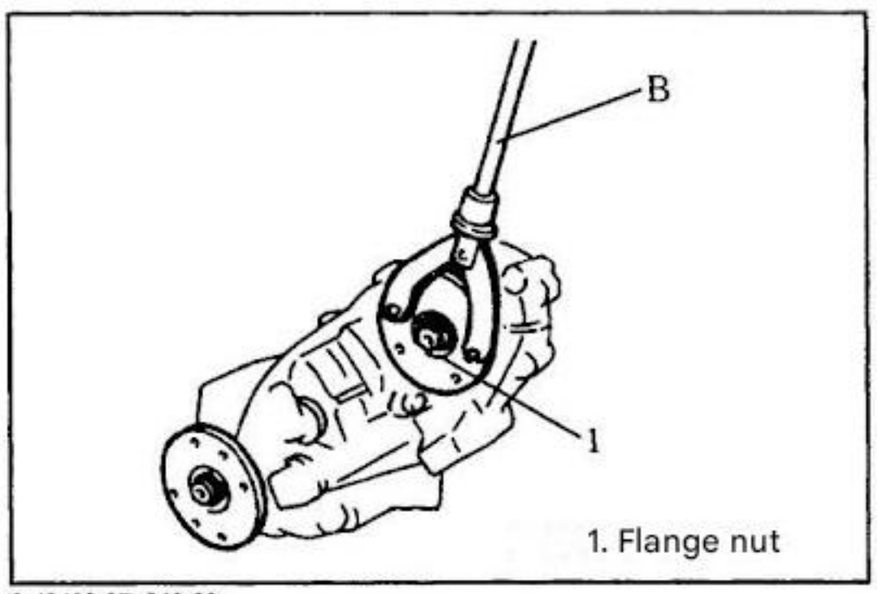


1. Speedometer driven gear

2-48406-2D-040-20

4. Install the speedometer driven gear.

Note: Temporarily tighten the speedometer cable mounting bolt.



1. Flange nut

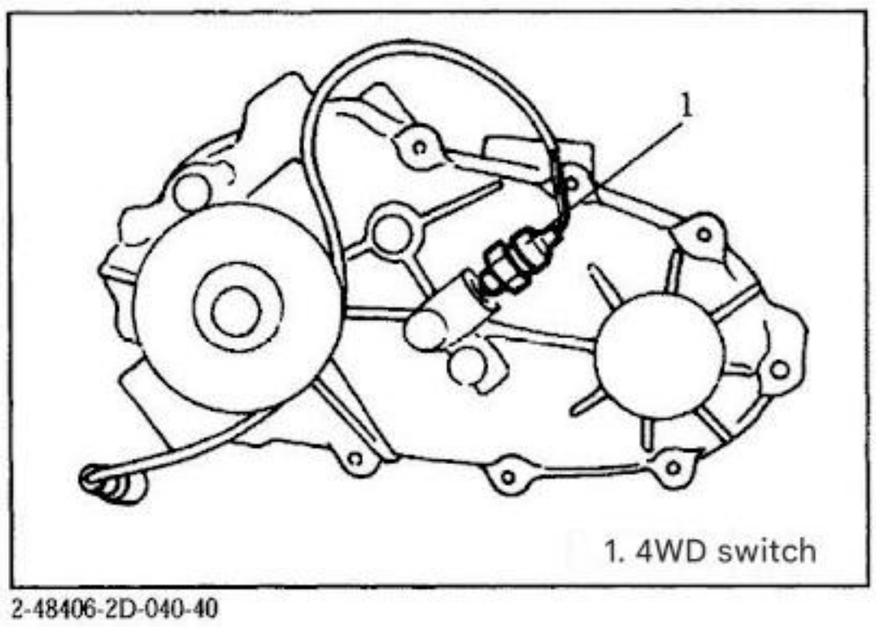
2-48406-2D-040-30

5. Install the input side flange.

Note: • Don't forget to crimp the flange nuts. (2 locations)

- Check the grease on the seal lip.

Tightening torque: 130Nm (1326kgf.cm)

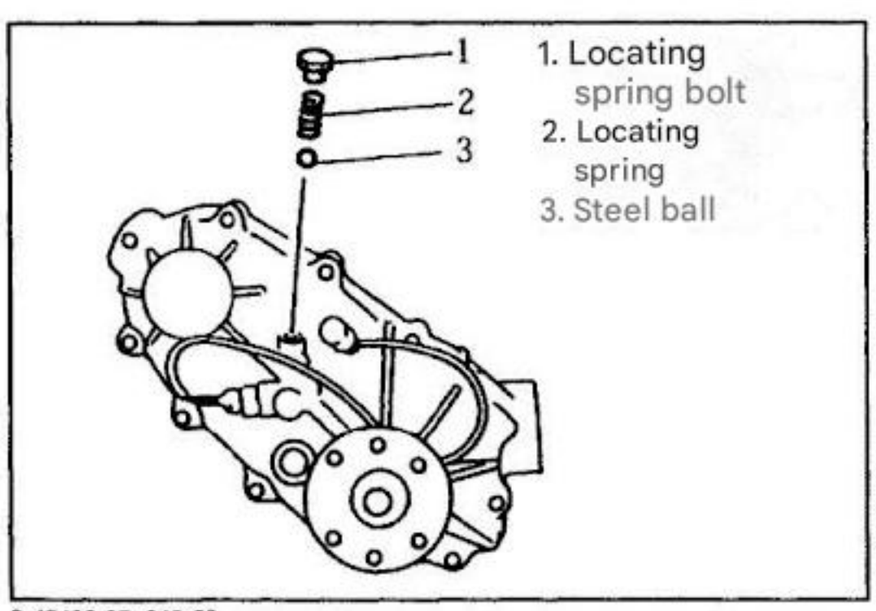


1. 4WD switch

2-48406-2D-040-40

6. After inserting the steel ball into the 4WD switch mounting hole on the case, install the 4WD switch.

Tightening torque: 19Nm (194kgf.cm)



1. Locating spring bolt
2. Locating spring
3. Steel ball

2-48406-2D-040-50

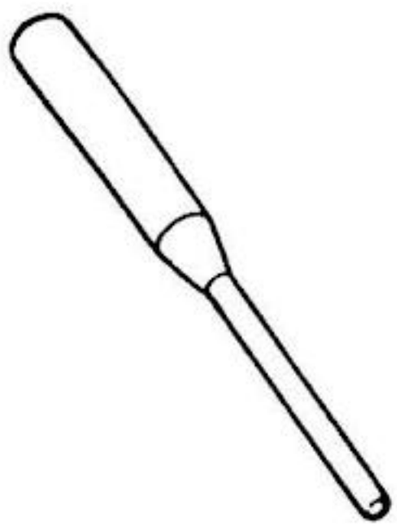
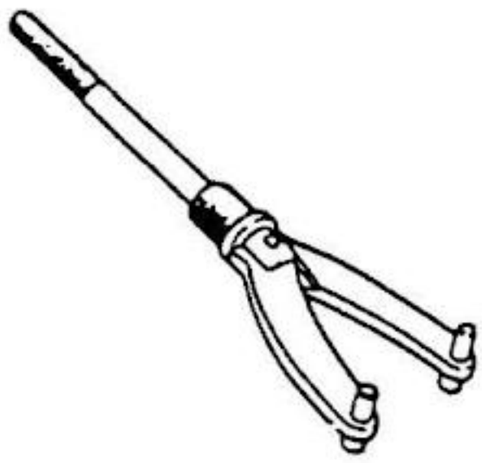
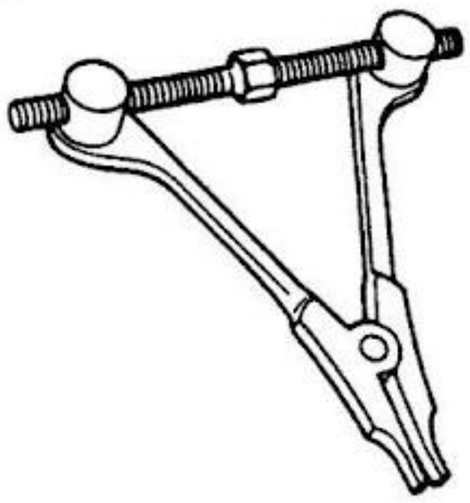
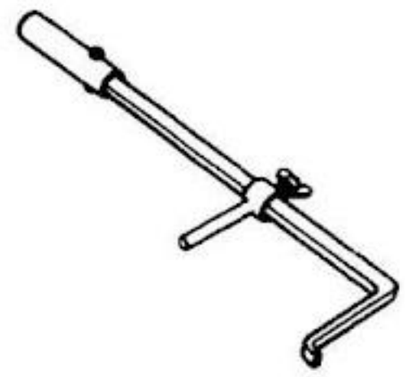
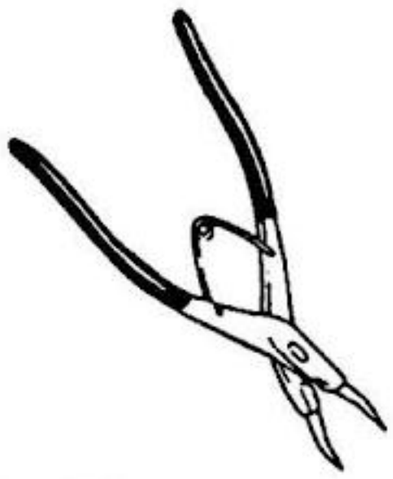
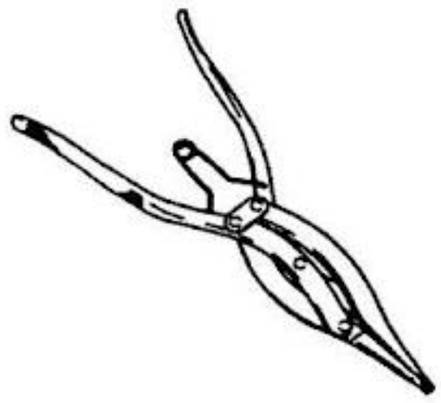
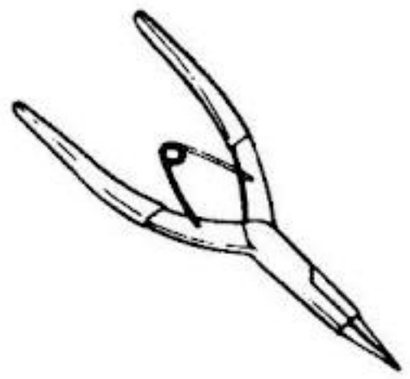
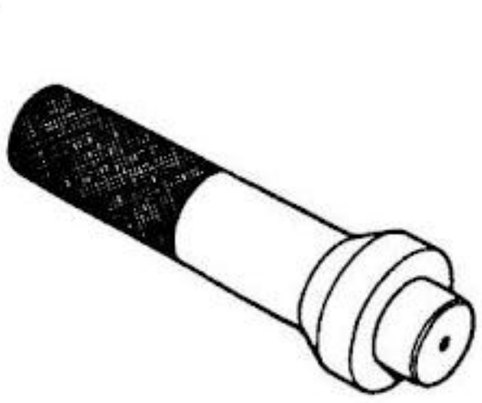
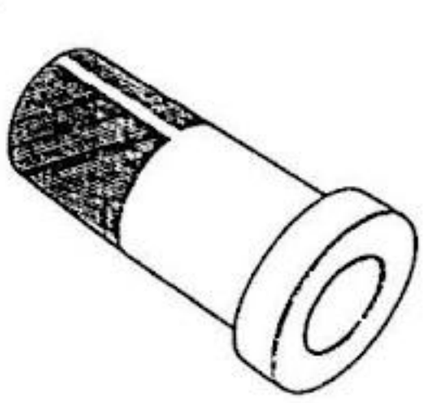
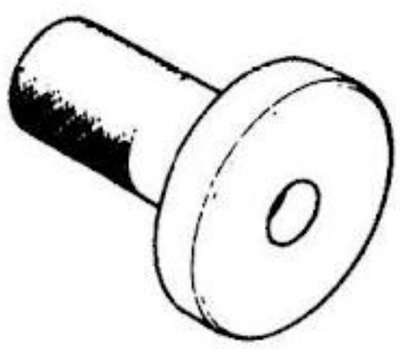
7. After placing the steel ball and locating spring into the case, tighten the locating spring bolt.

Tightening torque: 19Nm (194kgf.cm)

8. Assemble the mounting.

Machine Translated by Google

Special tools list

A  09922-85811 spring pin remover	B  09930-40113 rotor holder	C  09912-34510 separator	D  09913-50121 oil seal remover
E  09900-06108 snap ring pliers (closed type)	F  09913-65135 bearing puller	G  09920-76010 snap ring opener	H  09900-06107 snap ring pliers (open type)
I  09913-75830 bearing installer	J  09913-85210 bearing installer	K  09913-75810 bearing installer	L  09944-66020 bearing installer
M  09913-75520 bearing installer			

2-48406-2D-041-10

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List of repair materials

material	Genuine supplies	Where used
lithium grease	Suzuki Super Grease A (99000-25010)	• Oil seal lip
sealant	Suzuki Three Bond 1215 (99000-31080-15A)	-Oil drain and oil level plug • Front and rear case joint surfaces

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Section 4B

front suspension

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overview

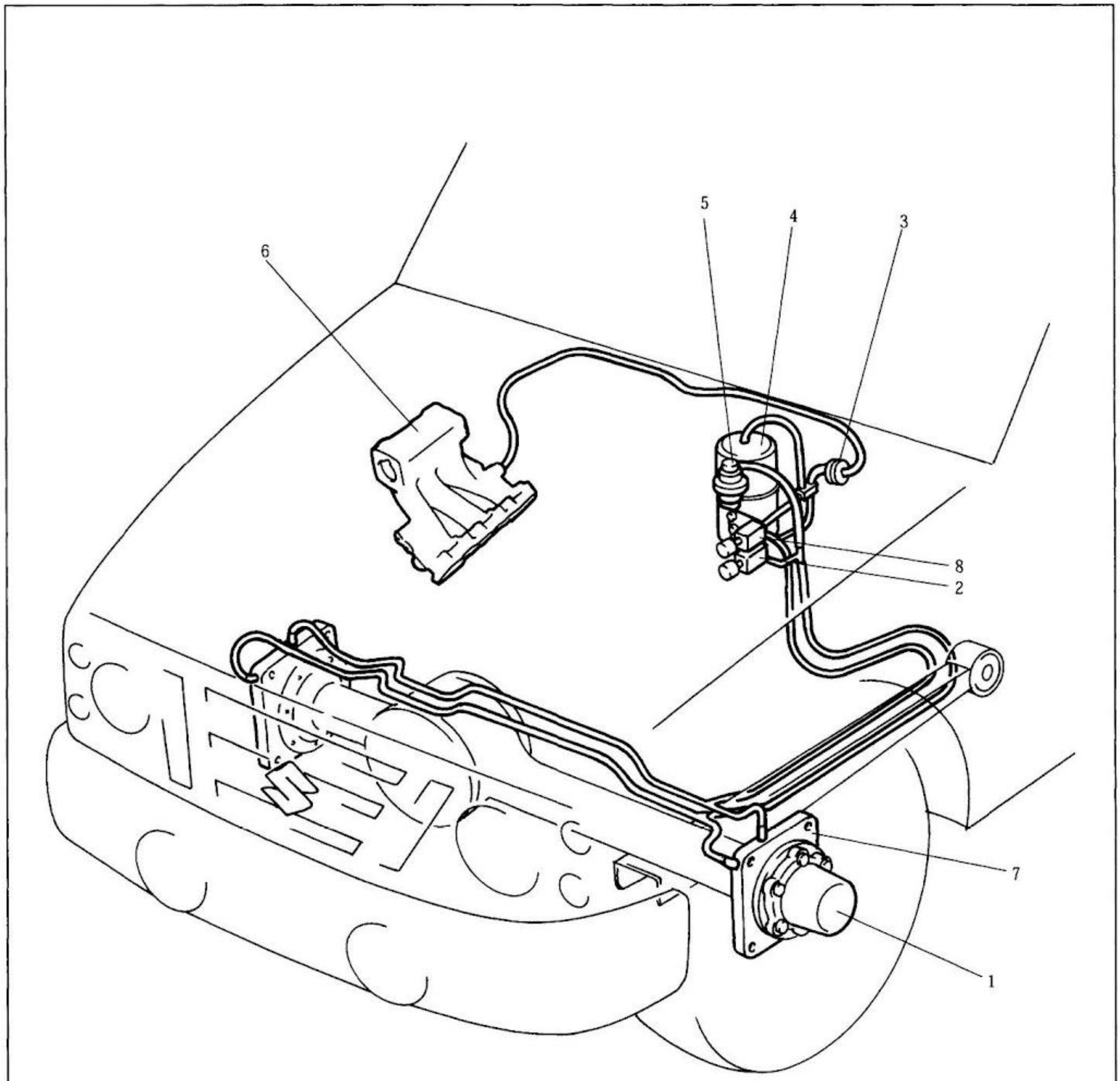
The freewheel hub of the passenger model has been changed to an air locking hub.

The air locking hub adopted this time is a system that allows the hub to be switched between free and locked even while riding.

The intake manifold negative pressure is used to power the hub switching.

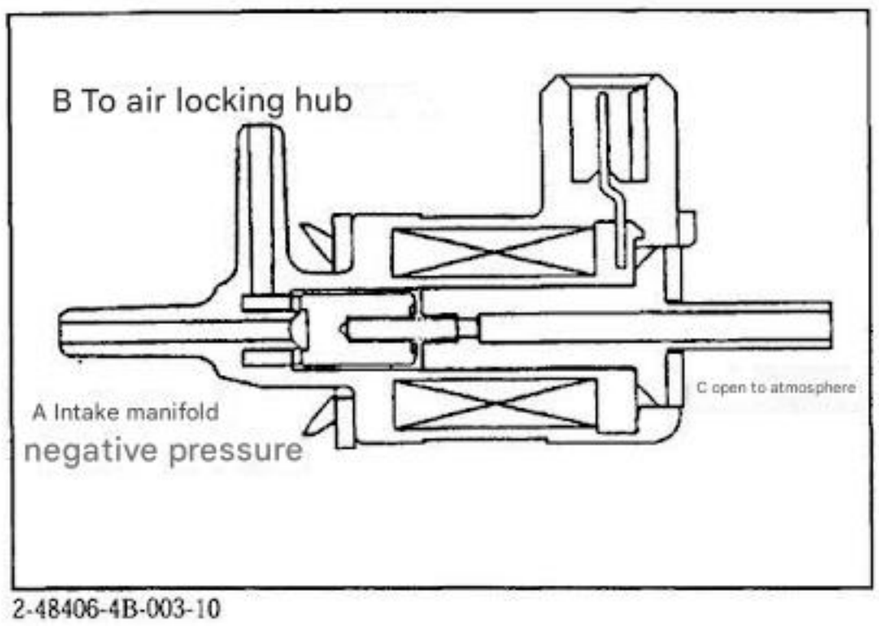
This system is controlled by the 4WD controller to work in conjunction with the transfer case's 2WD/4WD switching.

Reference: With conventional manual freewheel hubs, you had to get off the vehicle and lock the hub when switching between 2WD and 4WD. Even with auto freewheel hubs, you had to back up the vehicle when switching from locked to free.



1. Air locking hub
2. Vacuum switching valve 2 (lock side)
3. Check valve
4. Vacuum Accumulator Tank
5. Vacuum switch
6. Intake manifold
7. Spindle
8. Vacuum switching valve 1 (free side)

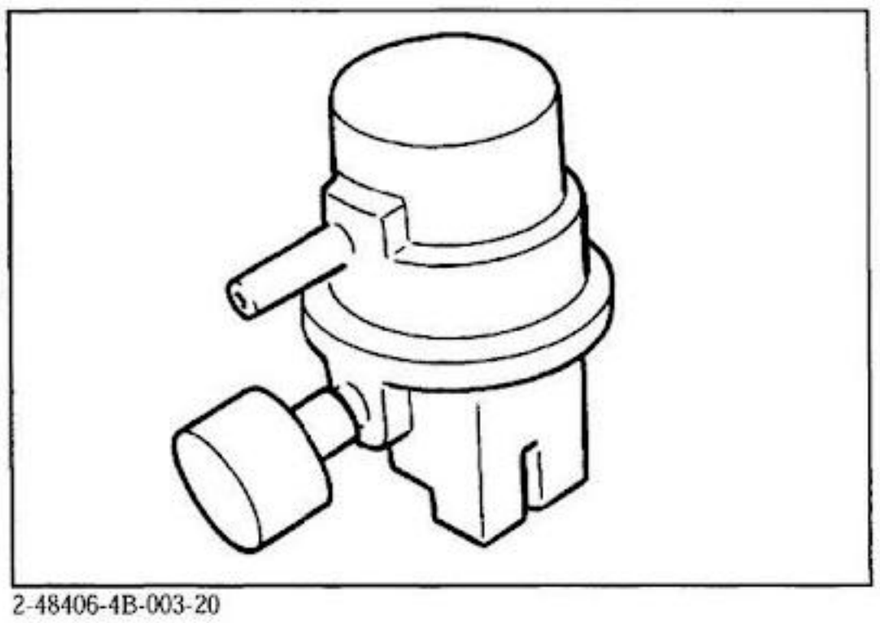
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2-48406-4B-003-10

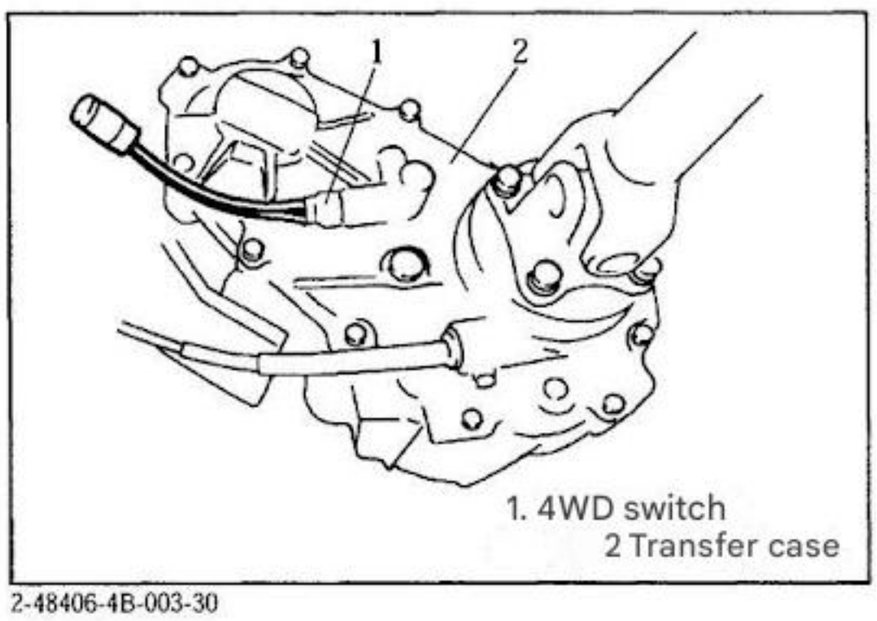
vacuum switching valve

Normally, the BC ports are connected, but when an ON signal is input from the 4WD controller, the AB ports are connected.


2-48406-4B-003-20

vacuum switch

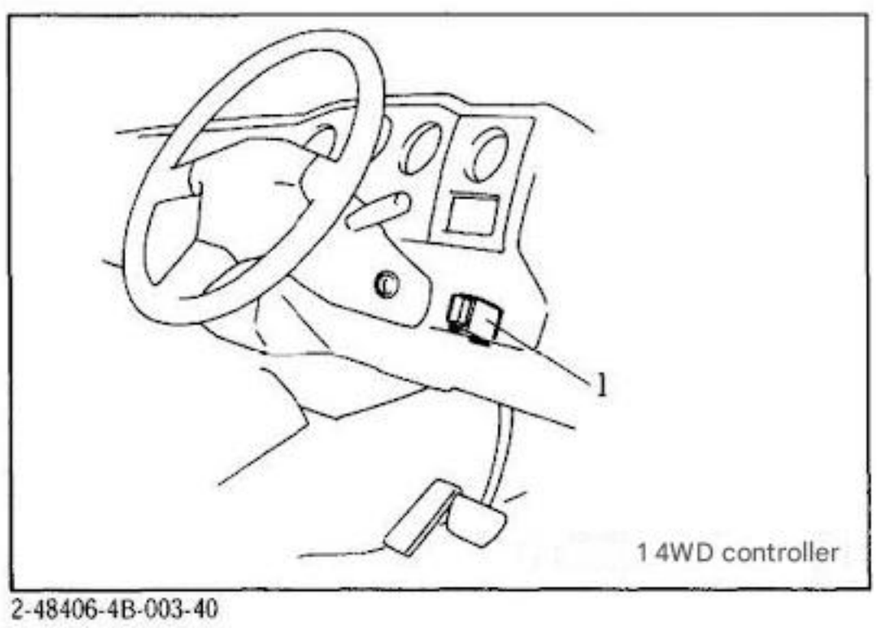
Lock side (4WD) Detects negative pressure in the vacuum piping and turns ON when it exceeds 34.7kPa {260mmHg.



2-48406-4B-003-30

4WD switch

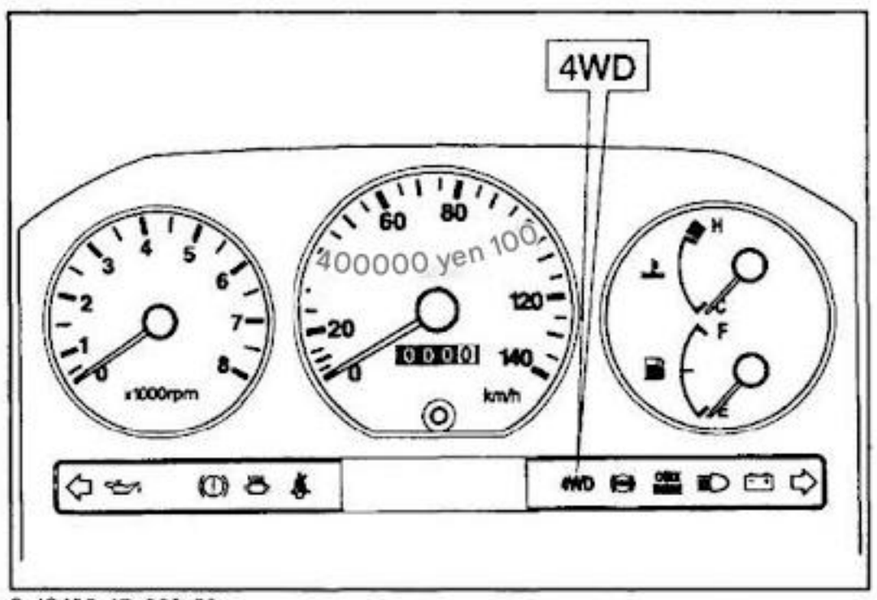
It is attached to the transfer case and turns ON when the transfer lever is shifted to the 4WD side.



2-48406-4B-003-40

4WD controller

It is attached next to the pedal bracket behind the instrument panel on the driver's side, and receives various signals to control the vacuum switching valve, etc.



2-48406-4B-003-50

4WD indicator light

When the transfer lever is shifted to the 4WD side, the 4WD indicator lamp in the combination meter lights up.

In addition, when switching to 4WD, if there is an abnormality in the vacuum piping on the lock side, the indicator lamp will flash to notify you that a malfunction has occurred in the system.

Machine Translated by Google

Air locking hub operation explanation

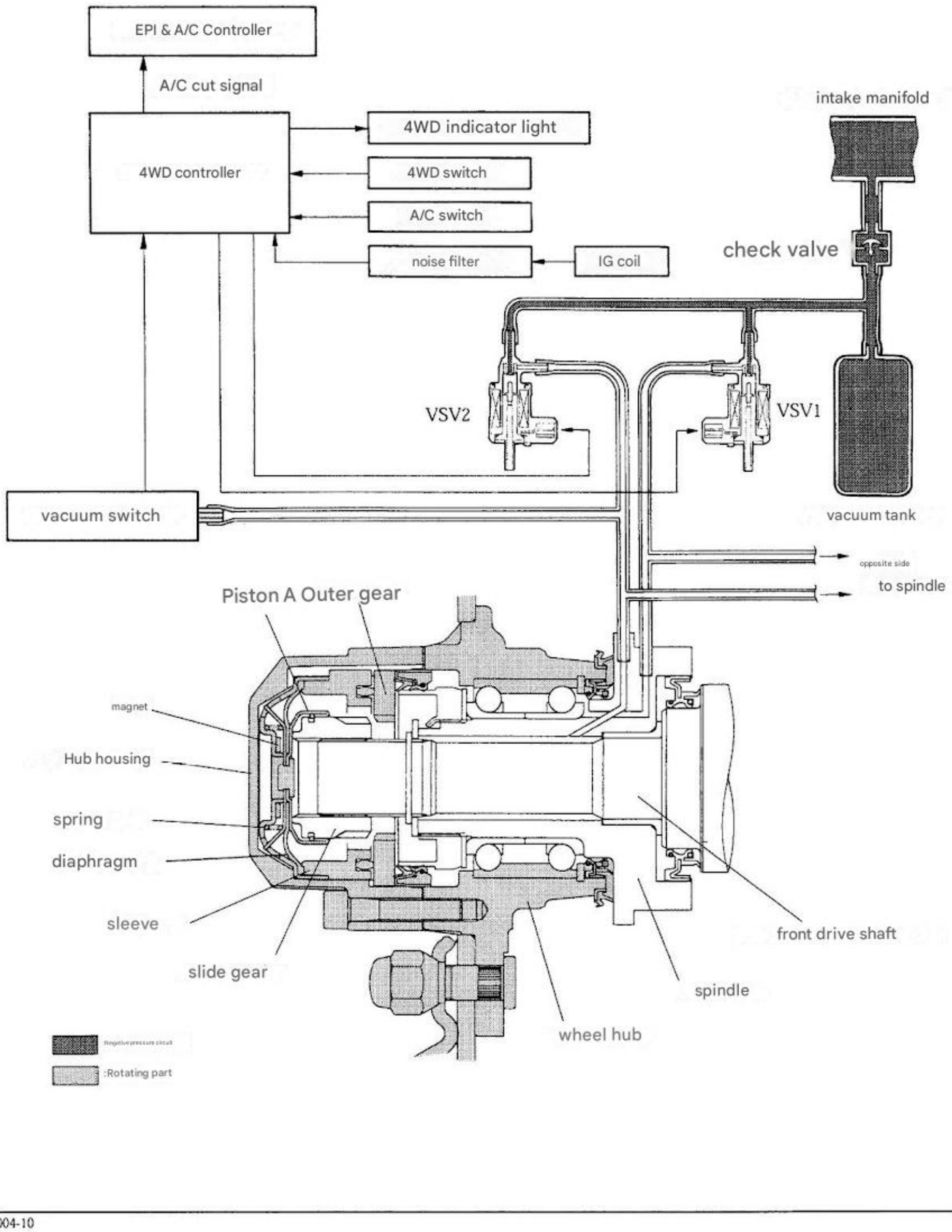
Free (2WD) driving

- The slide gear is attached to the diaphragm via piston A, but can rotate relative to piston A.

-In addition, the slide gear engages with the spline at the end of the front drive shaft, allowing it to move in the axial direction.

-The housing, diaphragm, sleeve and outer gear rotate together with the wheel hub.

The slide gear is held by a magnet at the bottom of the housing and is separate from the outer gear, so the front wheel The rotation is not transmitted to the front drive shaft.



2-48406-4B-004-10

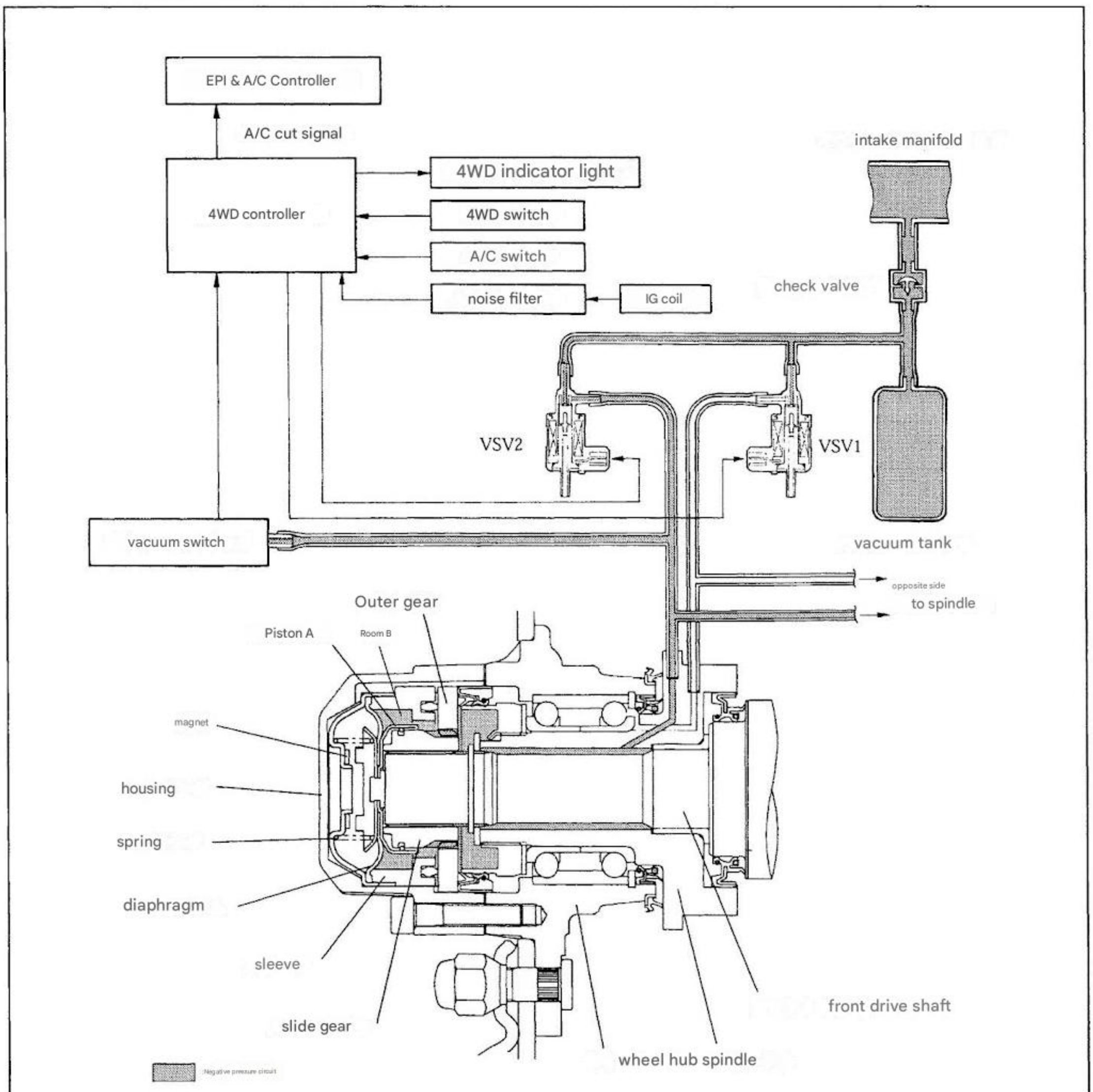
Machine Translated by Google

When switching from free to lock

-When the transfer lever is shifted from 2WD to 4WD, a 4WD switch ON signal is sent to the 4WD controller.

- The controller turns on VSV2. Also, if the A/C is in use at this time, it turns off the A/C compressor.
- When VSV2 is turned on, the negative pressure of the intake manifold is applied to chamber B inside the hub housing.
- When the vacuum switch installed in the vacuum piping detects a negative pressure of 260mmHg or more, the 4WD controller turns on the 4WD indicator lamp in the combination meter and holds the VSV2ON state for five seconds.
- The sliding gear is separated from the magnet by negative pressure, moves to the right and meshes with the outer gear, causing the front drive shaft and front wheel to rotate as one unit.
- When VSV2 is turned OFF, the pressure inside room B becomes atmospheric, but the slide gear is held in place by the spring. Also, if the A/C is in use at this time, the A/C compressor is turned ON.

Note: If there is a defect such as a hole in the vacuum piping and the negative pressure does not reach 260mmHg 15 seconds after VSV2 is turned ON, the slide gear will not operate. In this case, the 4WD indicator lamp will flash to inform the driver that the vehicle is unlocked.

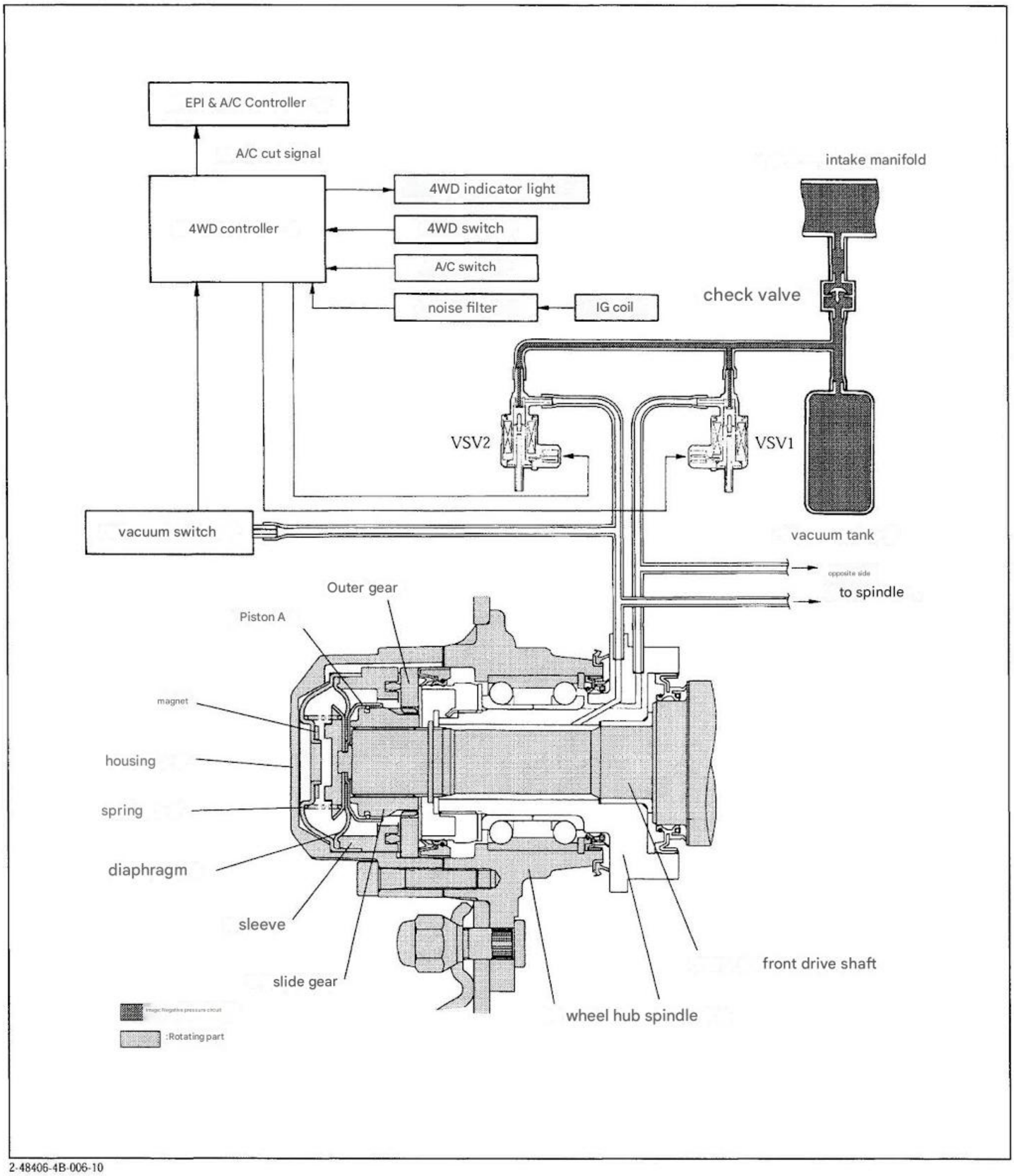


2-48406-4B-005-10

Machine Translated by Google

Locked (4WD)

- The sliding gear is pushed to the right by the spring force and meshes with the outer gear.
- The 4WD indicator in the combination meter is lit.



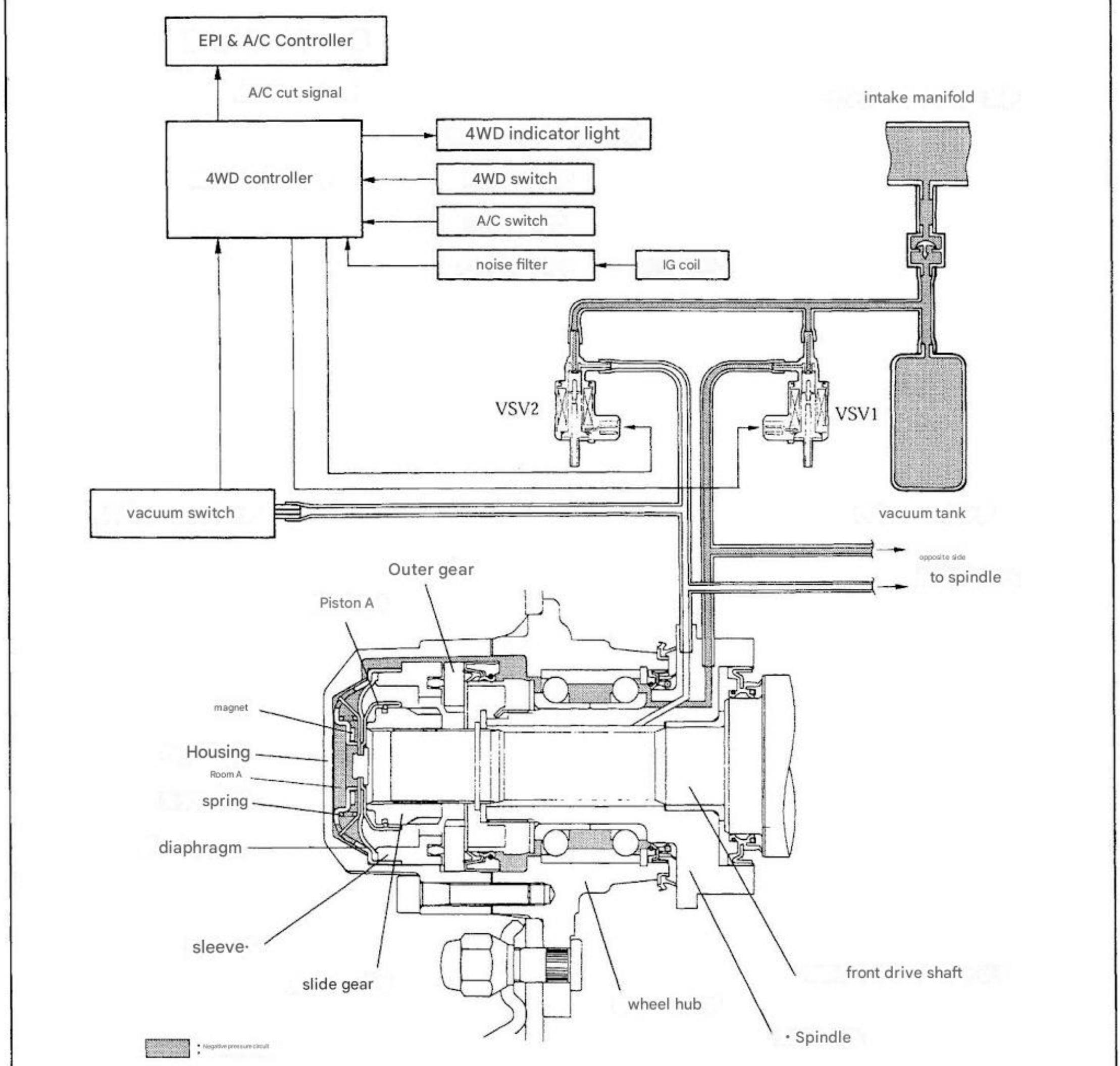
2-48406-4B-006-10

Machine Translated by Google

When switching from lock to free

-When the transfer lever is shifted from 4WD to 2WD, a 4WD switch OFF signal is sent to the 4WD controller, turning off the 4WD indicator.

- The controller turns on VSV1 and the timer (10 seconds). Also, if the A/C is in use at this time, it turns off the A/C compressor.
- When VSV1 is turned on, the negative pressure in the intake manifold is applied to chamber A inside the hub housing.
- The negative pressure causes the sliding gear to move to the left and separates it from the outer gear, so the rotation of the front wheels is not transmitted to the front drive shaft.
- When the timer finishes and VSV1 is turned OFF, the pressure inside room A becomes atmospheric, but the slide gear is held in place by the magnet. Also, if the A/C is in use at this time, the A/C compressor is turned ON.

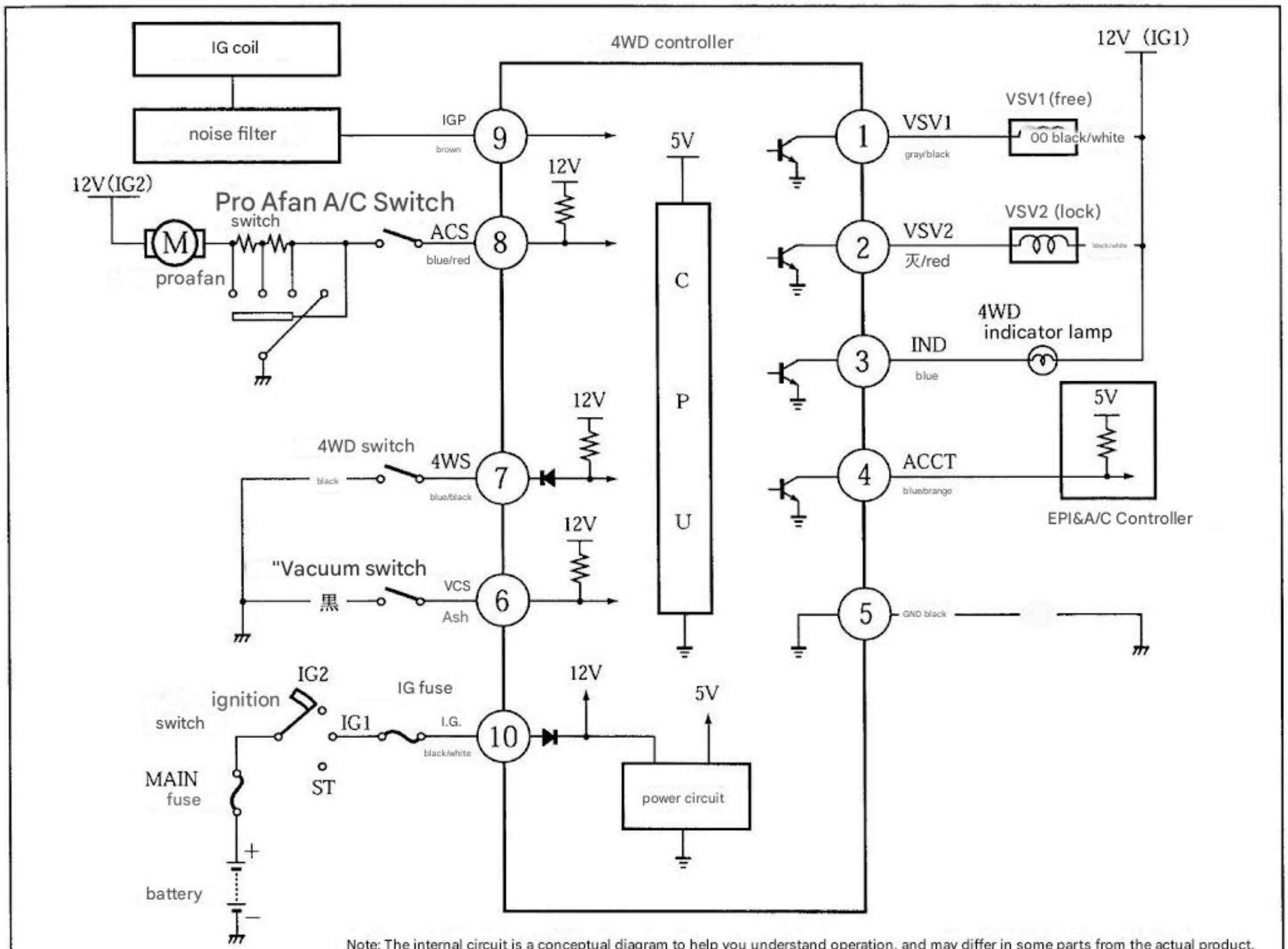


2-48406-4B-007-10

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4WD controller system wiring diagram

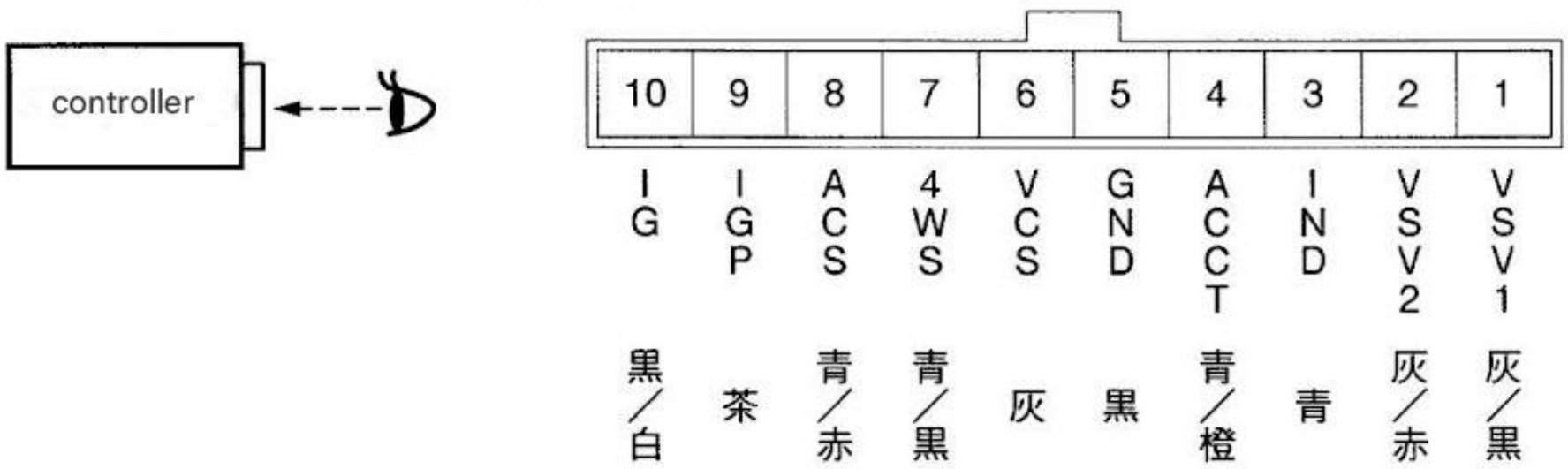
system wiring diagram



Note: The internal circuit is a conceptual diagram to help you understand operation, and may differ in some parts from the actual product.

2-48406-4B-008-10

Terminal arrangement



2-48406-4B-008-20

Terminal name list

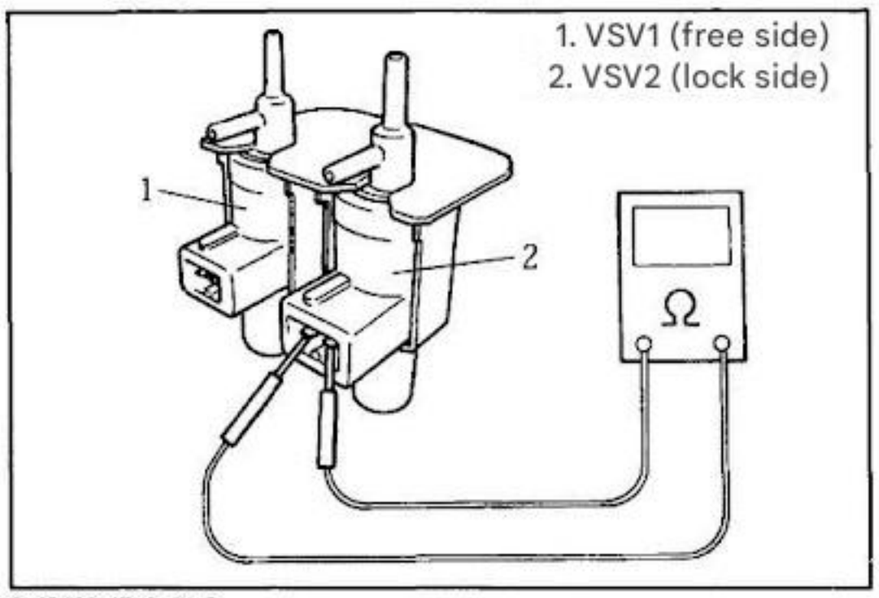
Terminal number	Wiring color	Terminal symbol	Terminal name	Terminal number	Wiring color	Terminal symbol	Terminal name
1	Grey/Black	VSV1	Vacuum switching valve 1 (free)	6	ash	VCS	Vacuum switch signal input
2	灰/red	VSV2	Vacuum switching valve 2 (lock)	7	blue/black	4WS	4WD switch signal input
3	Blue	IND	4WD indicator light	8	blue/red	ACS	A/C switch signal input
4	blue/orange	ACCT	A/C cut signal output	9	tea	IGP	Ignition pulse signal input
5	black	GND	earth	10	black/white	I.G.	Power supply (via ignition switch)

Machine Translated by Google

4WD controller terminal voltage value list (reference)

Terminal number	Terminal symbol	Wiring color	Connection destination	Reference voltage	Measurement conditions
1	VSV1	gray/black	Vacuum switching valve 1	Approximately 0V	Approximately 10 seconds after the transfer lever is switched to 2WD
				10～14V	Other than above
2	VSV2	灭/red	vacuum switching valve 2	Approximately 0V	Approximately 5 seconds after the transfer lever is switched to 4WD
				10～14V	Other than above
3	IND	blue	4WD indicator light	Approximately 0V	transfer lever 4wd
				10～14V	transfer lever 2wd
4	ACCT	blue/orange	EPI&A/C Controller	Approximately 0V	A/CON, transfer lever 2WD 4WD 5~10 seconds after switching
				5V	A/C ON
5	GND	黑	earth	Approximately 0V	Always
6	VCS	ash	vacuum switch	Approximately 0V	When the engine is running, for 5 seconds after the transfer lever is switched to 4WD
				10～14V	Other than above
7	4WS	blue/black	4WD switch	Approximately 0V	Transfer lever 4WD
				10～14V	Transfer lever 2WD
8	ACS	blue/red	A/C switch	Approximately 0V	A/C switch: ON and Fan SW: ON
				10～14V	A/C switch: ON and Fan switch: OFF
				10～14V	A/C switch: OFF
9	IGP	tea	ignition coil	1V or less 10~14V pulse	When the engine rotates
10	I.G.	black/white	battery	10～14V	IG：ON

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2-48406-4B-010-10

On-board maintenance

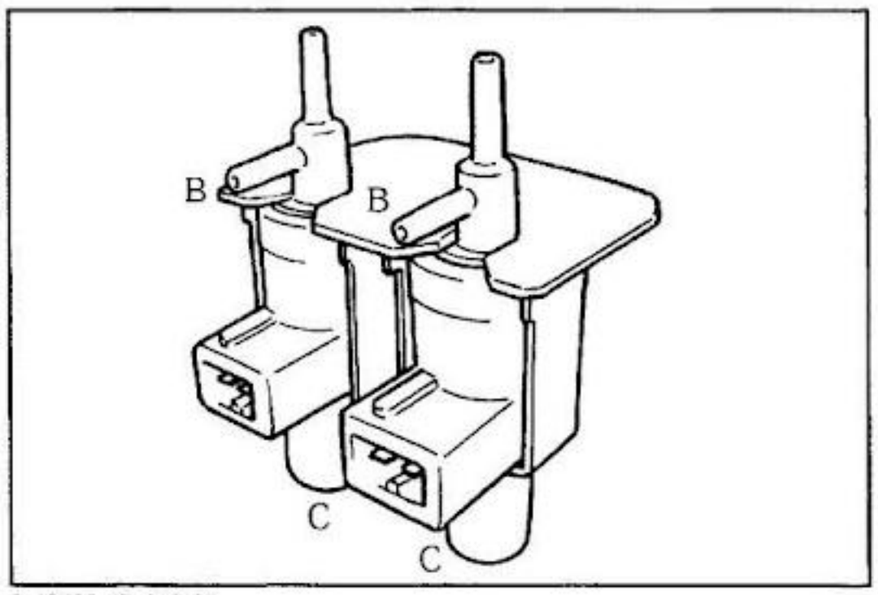
vacuum switching valve

Remove the coupler of the vacuum switching valve and measure the resistance between the terminals.

If it is out of standard range, replace it.

Reference value (2): 33-39

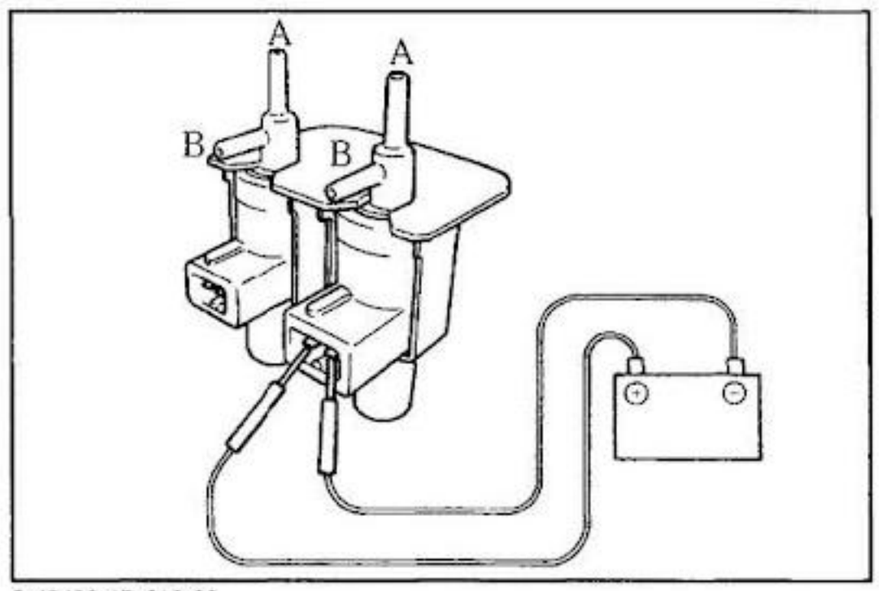
Note: White tape is wrapped around the coupler on the VSV2 side for identification purposes.



2-48406-4B-010-20

In this state, check that ports B and C are connected.

If any abnormality is found, replace it.

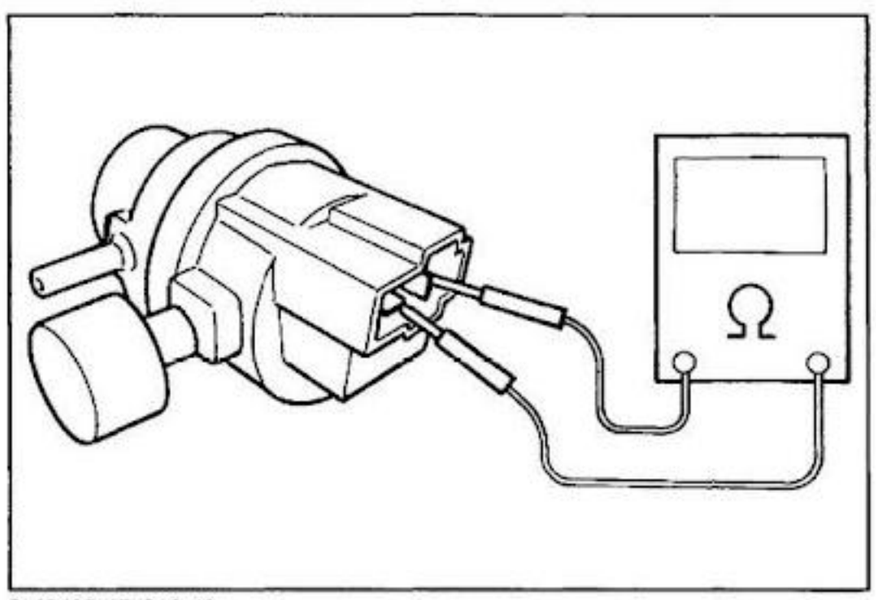


2-48406-4B-010-30

When battery voltage is applied to the VSV terminal, check that there is communication between ports A and B.

If any abnormality is found, replace it.

vacuum switch

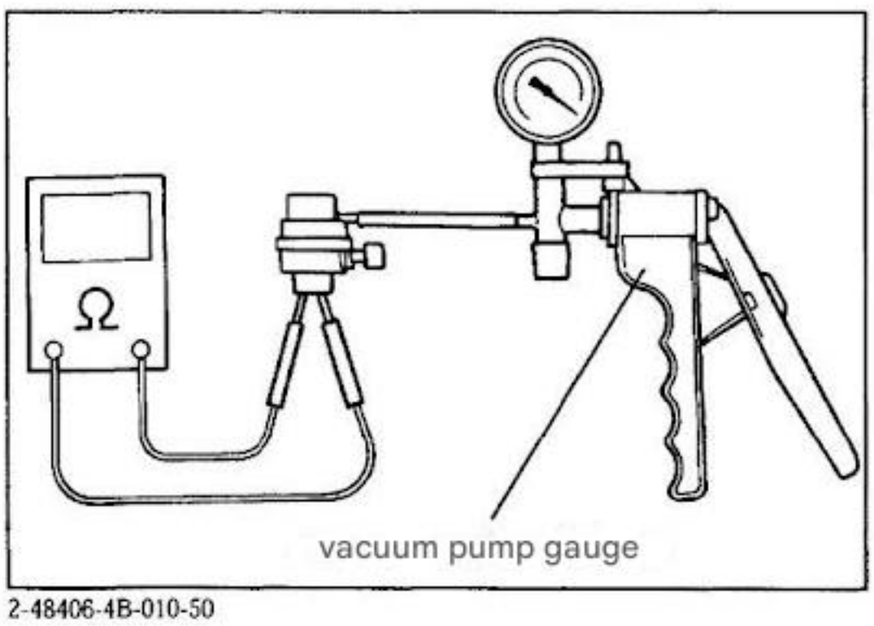


2-48406-4B-010-40

Remove the vacuum switch coupler and measure the resistance between the terminals.

If it is out of standard range, replace it.

Reference value: 1MΩ or more



2-48406-4B-010-50

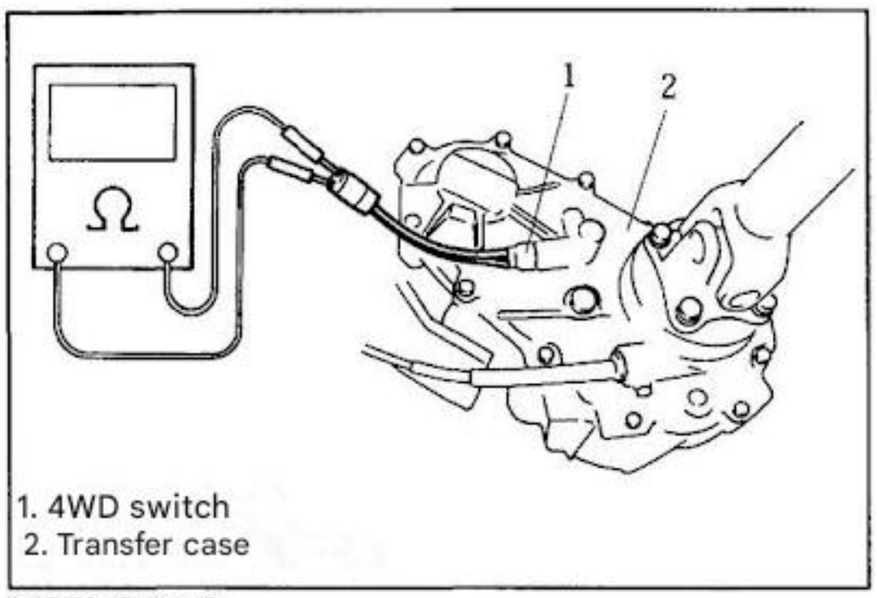
Connect the special tool as shown in the figure and measure the resistance between the terminals when a negative pressure of 40kPa {300mmHg} or more is applied.

If it is out of standard range, replace it.

Special tools (vacuum pump gauge): 09917-47910

Reference value: 0.80 or less

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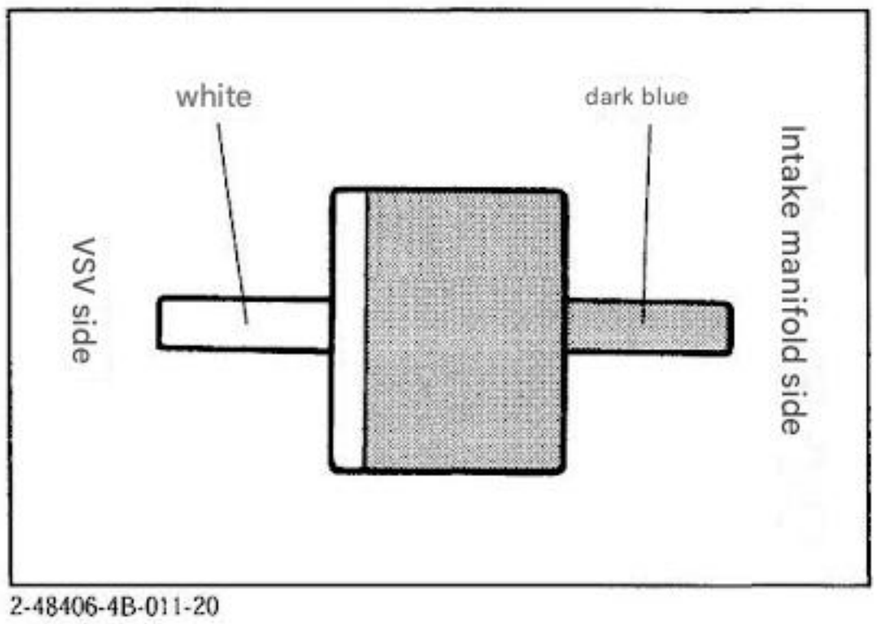
1. 4WD switch
2. Transfer case

2-48406-4B-011-10

4WD switch

Remove the 4WD switch coupler.

Check that there is continuity between the terminals when the transfer lever is in the 4WD position.

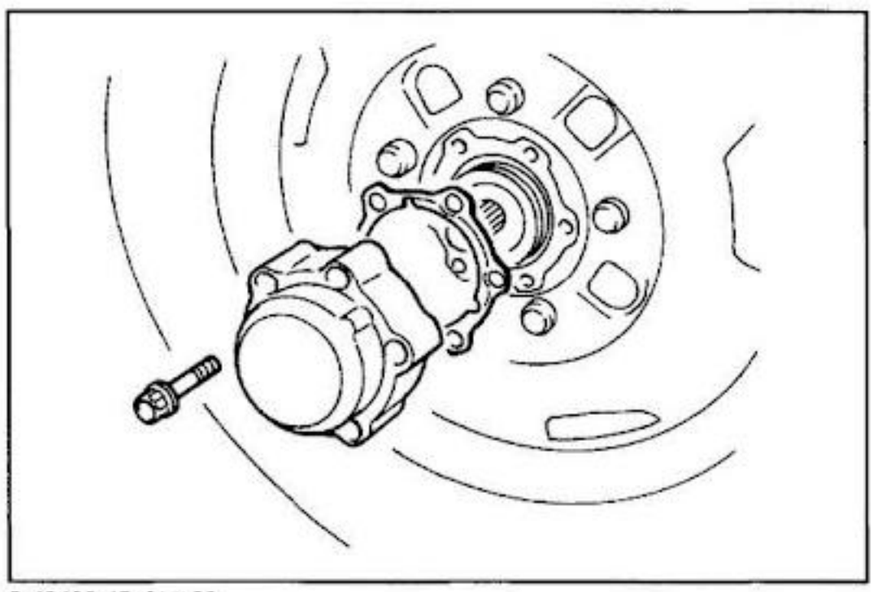


2-48406-4B-011-20

check valve

Verify that there is communication between the ports when negative pressure is applied to the port on the dark blue side.

When negative pressure is applied to the port on the white side, confirm that there is no change in the port on the opposite side.

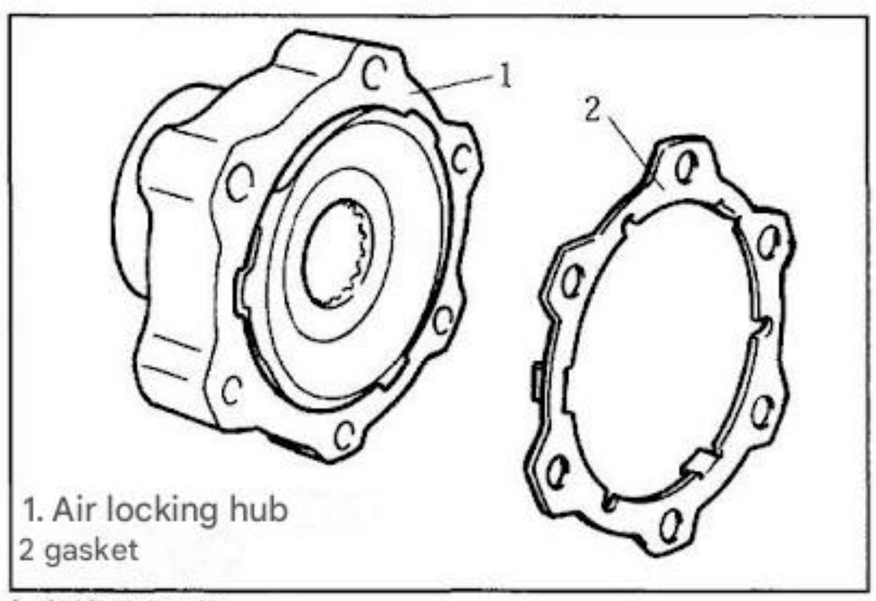


2-48406-4B-011-30

air locking hub

Removal/installation

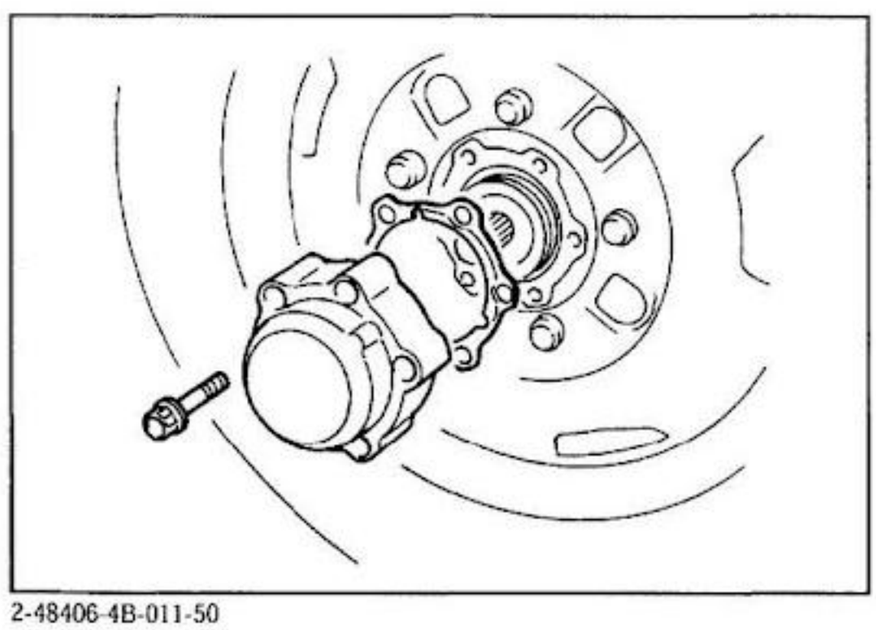
1. Use an 8 mm socket wrench (12-sided) to remove the six bolts, and then remove the air locking hub assembly.
2. Check that there are no scratches on the mounting surfaces of the air locking hub assembly and the wheel hub.



1. Air locking hub
2 gasket

2-48406-4B-011-40

3. Clean the mounting surface and align the gasket's tabs (3 places) with the recesses in the air locking hub.



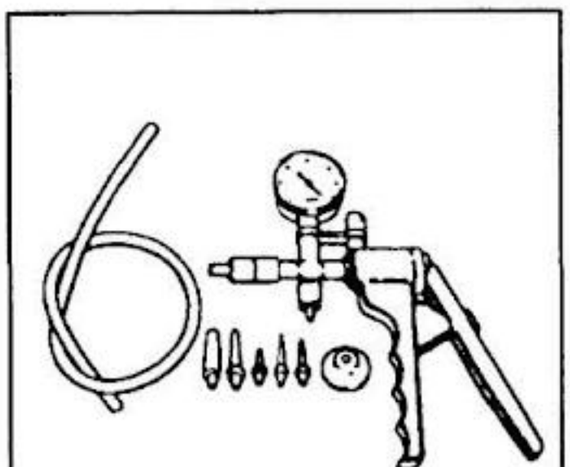
2-48406-4B-011-50

4. Attach the air locking hub to the wheel hub and tighten the bolts to the specified torque.

Tightening torque: 47.5Nm{485kgf.cm}

Machine Translated by Google

Special tools list



09917-47910
vacuum pump gauge

2-48406-4B-012-10

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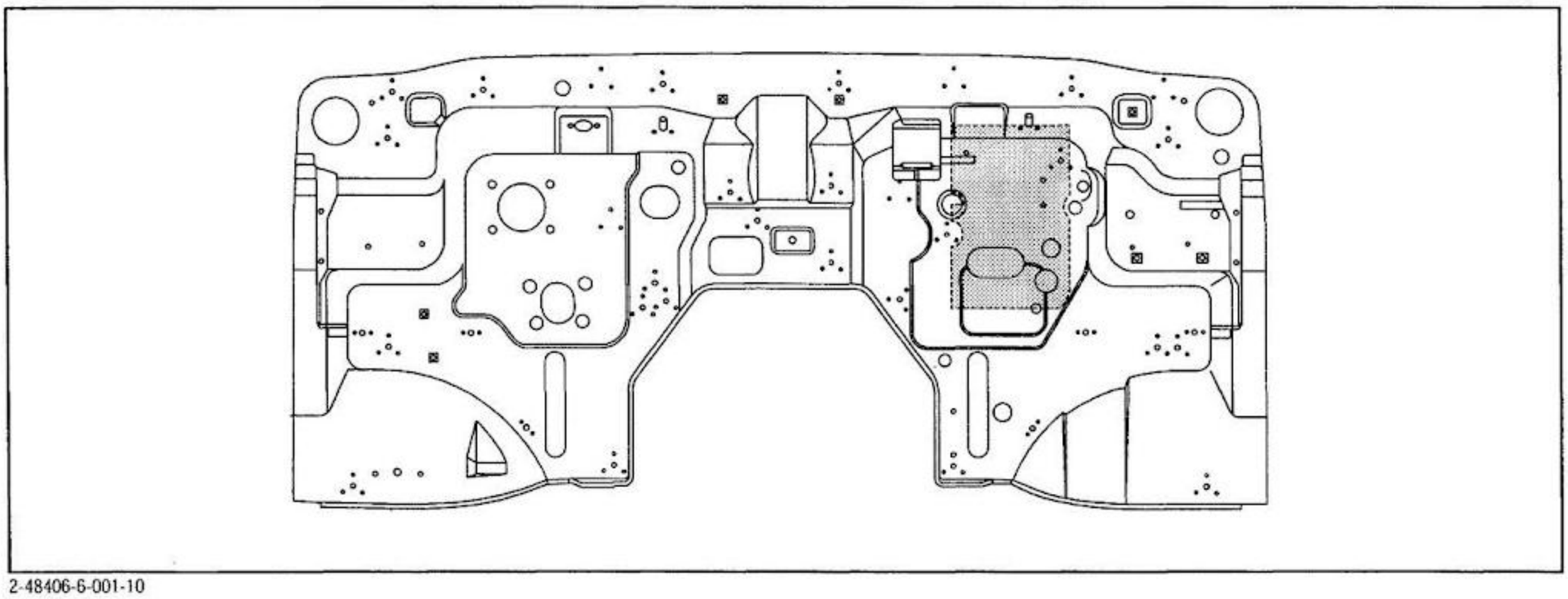
Section 6

body

overview

body body

- Due to the addition of a vacuum tank, a reinforcement was added to the dash panel.

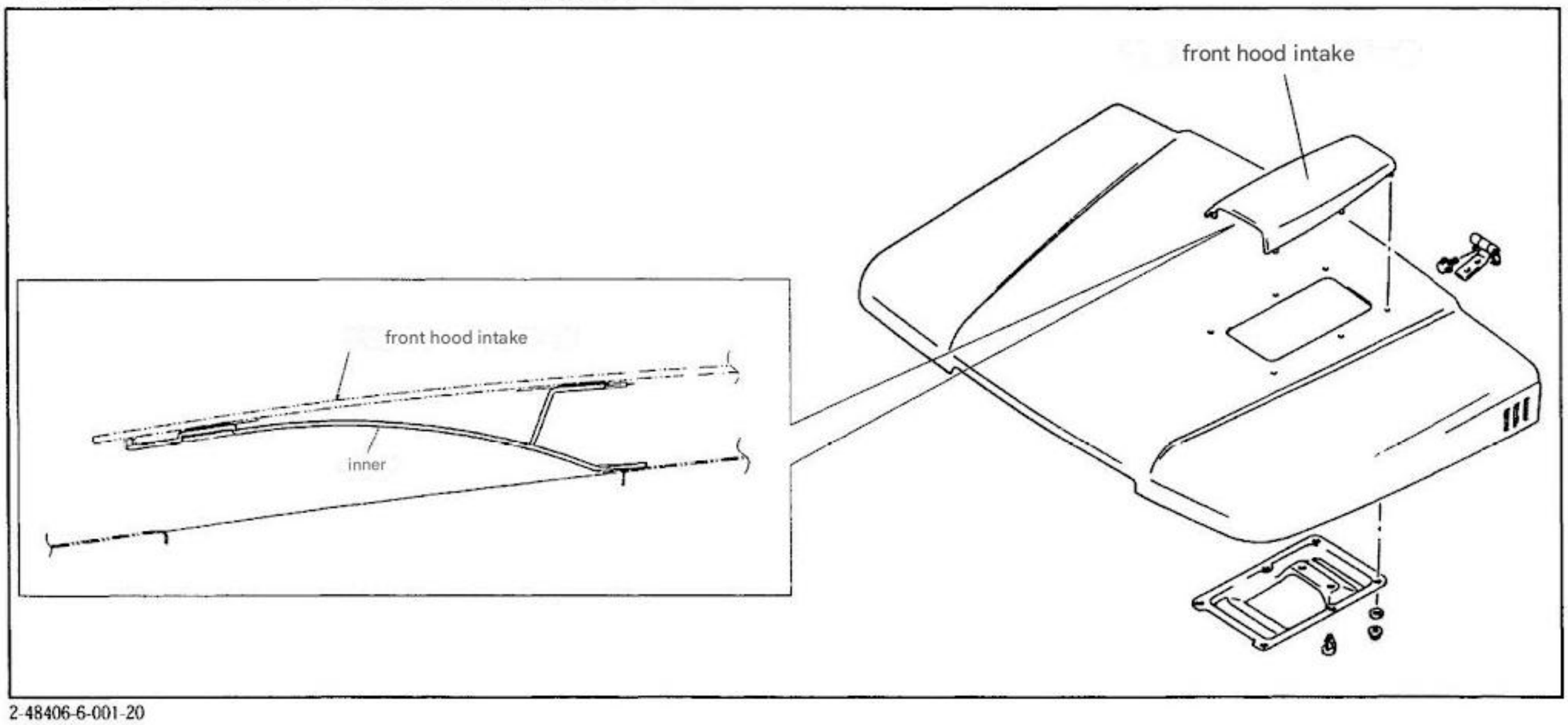


2-48406-6-001-10

body exterior

The front windshield is made of heat-absorbing green glass, the front doors are made of UV-cut glass, and the rear quarters and back door are made of smoked glass.

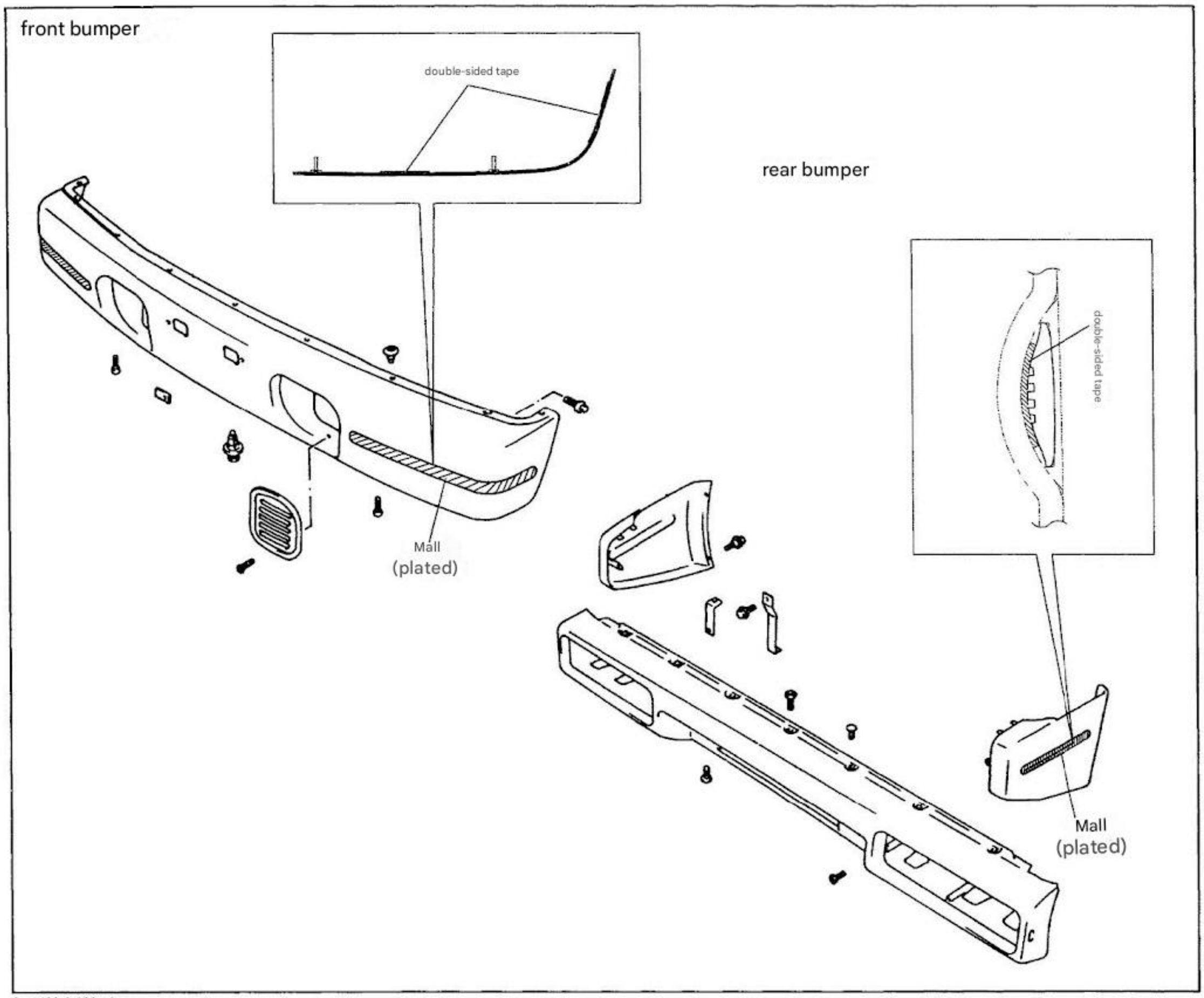
-An inner hood intake is used for the front hood.



2-48406-6-001-20

Machine Translated by Google

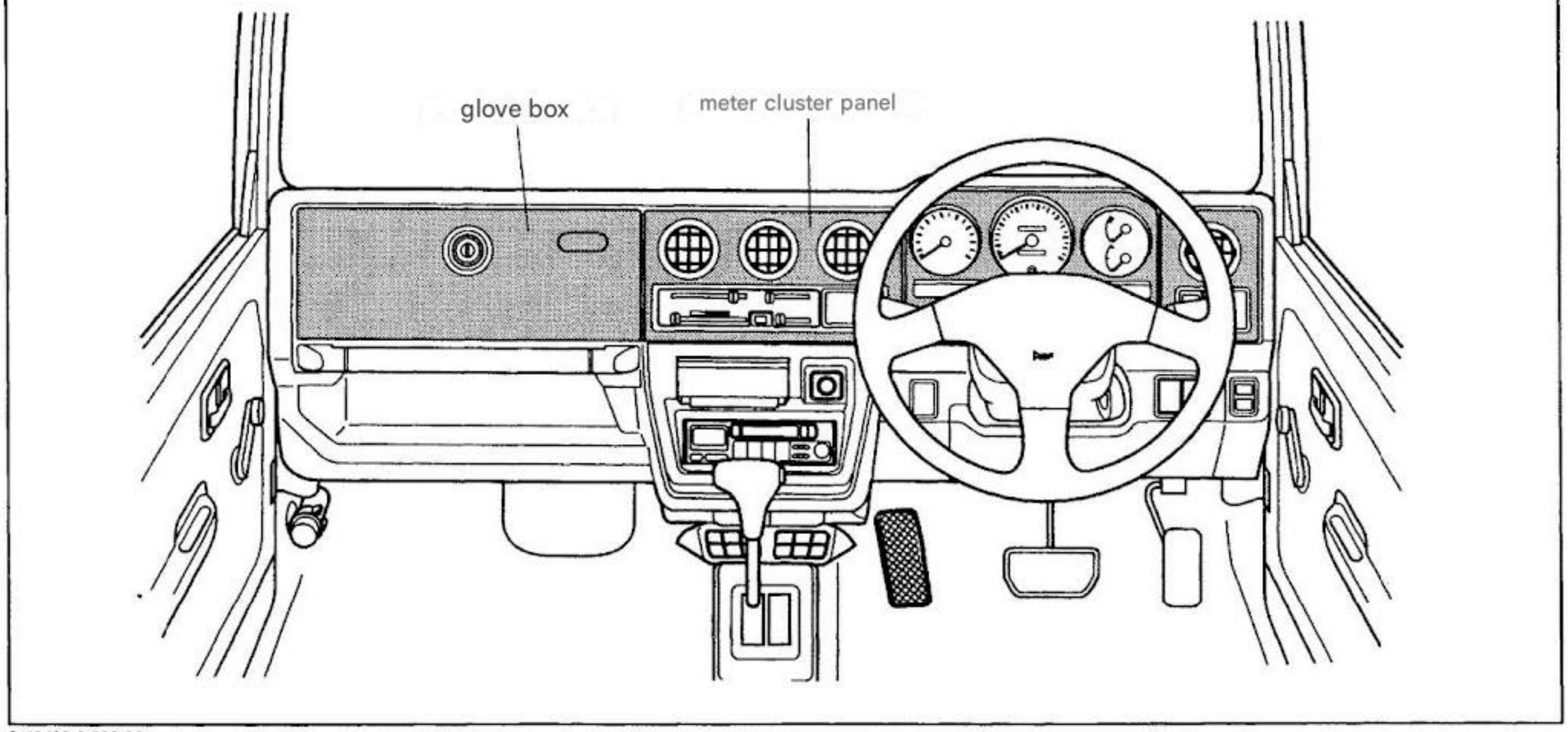
- Chrome moldings have been added to the front bumper and rear side bumper.



2-48406-6-002-10

body interior

- The meter cluster panel and glove box have been changed to a wood grain pattern. (Fishing Master)



2-48406-6-002-20

Machine Translated by Google

Section 9

service data

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Machine Translated by Google

engine

F6A type 1 cam 2 valve turbo engine

item			Reference value	Usage limit	Abstract
Compression pressure (kPa{kgf/cm²})			1180 {12.0}	930 {9.5}	At 400rpm
Compression pressure difference between cylinders (kPa{kgf/cm²})			98{1.0} or less	—	—
V-belt Deflection (mm)	of	New Zhang time	8～10	—	When the center of the belt is pressed with a force of 98N {10kgf}.
		When retensioning	9～12	—	
Valve clearance (mm)	IN	cold time	0.15	—	*The data during warm periods is for reference only.
		Warm time	0.25	—	
	EX	cold time	0.17	—	
		Warm time	0.27	—	
Idling speed (rpm)			950±50	—	
A/C idle up speed (rpm)			1050±50	—	
CO, HC concentration	CO（%）	passenger	0.7 or less	—	*No load state
		commercial	1.5±1.0	—	
	HC（ppm）	乘 for	600 or less	—	
		commercial	1100 or less	—	

K6A type 2-cam 4-valve turbo engine

Item			Reference value	Usage limit	Abstract
Compression pressure (kPa{kgf/cm²})			1180 {12.0}	930 {9.5}	At 400rpm
Compression pressure difference between cylinders (kPa{kgf/cm²})			98{1.0} or less	—	—
V-belt deflection (mm)		New Zhang time	8～10	—	When the center of the belt is pressed with a force of 98N (10kgf).
		When retensioning	12～16	—	
Valve clearance (mm)	IN	cold time	0.20	—	*The data during warm periods is for reference only.
		Warm time	0.25	—	
	EX	cold time	0.20	—	
		Warm time	0.23	—	
Idling speed (rpm)			950±50	—	
A/C idle up speed (rpm)			1050±50	—	
CO, H.C. concentration	C.O.	(%)	0.7 or less	—	No load condition
	H.C.	(ppm)	600 or less	—	

Machine Translated by Google

cooling device

F6A type 1 cam 2 valve turbo engine

item			Reference value	Usage limit	Summary
Total cooling water capacity (l)		M T	4.0	—	Internal reservoir tank capacity: 0.6 liters
		A T	4.1		
Cooling water concentration (%)		General	30	—	
		cold region	50		
radiator	Radiator cap opening pressure (kPa{kgf/cm²})		74～120{0.75～1.25}	—	
	Electric fan start temperature (°C)		—	—	
thermostat	Opening temperature (°C)	General	82	—	
		cold region	88		
	Fully open temperature (°C)	General	95		
		cold region	100		

K6A type 2-cam 4-valve turbo engine

item			Reference value	Usage limit	Summary
Total cooling water capacity (l)		M T	4.0	—	Internal reservoir tank capacity: 0.6 liters
		A T	4.1		
Cooling water concentration (%)		— General	30	—	
		cold region	50		
radiator	Radiator cap opening pressure (kPa{kgf/cm²})		74～120{0.75～1.25}	—	
	Electric fan start temperature (°C)		96	—	
thermostat	Opening temperature (°C)		78	—	
	Fully open temperature (°C)		91		

Machine Translated by Google

Lubricating device

F6A type 1 cam 2 valve turbo engine

item			Reference value	Usage limit	Summary
engine oil	Oil pressure (kPa{kgf/cm²})		245 {2.5}	—	At 4000 rpm
	Oil amount (l)	When replacing	2.7	—	
		When replacing the filter at the same time	2.9	—	
		During	3.3	—	
	The difference between the upper and lower limits of the level gauge (l)		1.0	—	

Engine oil used	Oil change period	Oil filter replacement period
Turbo specification extra oil turbo 10W-30 (SF)	Every 6 months or 5,000km	Every 10,000km
Turbo specification cold weather Exter oil 5W-30 (SG/CD)		

K6A type 2-cam 4-valve turbo engine

item			Reference value	Usage limit	Abstract
engine oil	Oil pressure (kPa{kgf/cm²})		275 {2.8}	—	At 4000 rpm
	Oil amount (l)	When replacing	2.8	—	
		When replacing the filter at the same time	3.0	—	
		During	3.4	—	
	The difference between the upper and lower limits of the level gauge (l)		1.0	—	

Use engine oil	Oil change period	Oil filter replacement period
Turbo specification extra oil turbo 10W-30 (SF)	Every 6 months or 5,000km	Every 10,000km
Turbo specification cold weather Exter oil 5W-30 (SG/CD)		

Machine Translated by Google

F6A type 1 cam 2 valve turbo engine

Electrical equipment

item				Reference value	Usage limit	Abstract
point	spark plug	NGK	Model	BPR5E	—	
			Spark gap (mm)	0.7～0.8	—	
		DENSO	Model	W16EXP-U	—	
			Spark gap (mm)	0.7～0.8	—	
	Point gap (mm)			—	—	
	Air gap (non-contact type) (mm)			0.2	—	
	Dwell angle (degrees)			—	—	
point	Fire order			1-3-2	—	
Ignition timing (BTDC degrees/rpm)			M T	5±1/950	—	
			A T	5±1/950	—	
Advance device (retard)	centrifugal	Lead angle number/lead angle	1 stage	—	—	
		Starting speed (°/rpm)	2 steps	—	—	
		Lead angle number/lead angle	1 stage	—	—	
		End speed (°/rpm)	2 steps	—	—	
	Negative pressure type	Lead angle number/lead angle	1 stage	—	—	
		Starting negative pressure (°/mmHg)	2 steps	—	—	
		Lead angle number/lead angle	1 stage	—	—	
		End negative pressure (°/mmHg)	2 steps	—	—	
	Positive pressure type	Retard angle number/retard start positive pressure (°/mmHg)		—	—	
		Retard angle number/retard end positive pressure (°/mmHg)		—	—	
	electronic	Control range (°)		−2.5～27.5	—	Equivalent to crankshaft angle
High tension cord resistance (KΩ/m)				10～22	—	
Ignition coil resistance (Ω)			primary	1.48±10%	—	
			secondary	13.2k±15%	—	
			external resistor	—	—	
battery	Specific gravity (liquid temperature 20°C)		General	1.280	—	
			cold region	1.280	—	
	capacity Amount (Ah)		General	24 (5 hour rate)	—	
			cold region	38 (5 hour rate)	—	
Starter motor brush length (mm)				17.0	11.5	
Neat altar	Rotor coil resistance (2)			2.8～3.0	—	
	Adjustment voltage (V)			14.7±0.3	—	Load 10A, 25°C
air conditioner	Compressor belt deflection (mm)		New Zhang time	6～9	—	the center of the belt With a force of 98N {10kgf} "When pressed
			When retensioning	8～11	—	

Place: fire / outfit / battery

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K6A type 2-cam 4-valve turbo engine

term			eye		Reference value	Usage limit	Abstract
point	spark plug	NGK DENSO	Model		DCP7EVX	—	
			Spark gap (mm)		0.8～0.9	—	
			Model		XU22EP-P	—	
			Spark gap (mm)		0.8～0.9	—	
	Point gap (mm)				—	—	
	Air gap (non-contact type) (mm)				0.2	—	
	Dwell angle (degrees)				—	—	
	firing order				1-3-2	—	
	Ignition timing (BTDC degrees/rpm)			M T	5±1/950	—	
				A T	5±1/950	—	
fire	Advance device (retard)	centrifugal	Lead angle number/lead angle	1 stage	—	—	
			Starting speed (°/rpm)	2 steps	—	—	
			Lead angle number/lead angle	1 stage	—	—	
			End speed (°/rpm)	2 steps	—	—	
Device		Negative pressure type	Lead angle number/lead angle	1 stage	—	—	
			Starting negative pressure (°/mmHg)	2 steps	—	—	
			Lead angle number/lead angle	1 stage	—	—	
			End negative pressure (°/mmHg)	2 steps	—	—	
		formal ceremony	Retard angle number/retard start positive pressure (°/mmHg)		—	—	
			Retard angle number/retard end positive pressure (°/mmHg)		—	—	
		electronic	Control range (°)		−2.5～27.5	—	Equivalent to crankshaft angle
	High tension cord resistance (k2/m)				10～22	—	
	Ignition coil resistance (Ω)			primary	0.9±10%	—	
				secondary	22.5±10%	—	
				external resistor	—	—	
battery	Specific gravity (liquid temperature 20°C)			General	1.280	—	
				cold region	1.280	—	
	capacity Amount (Ah)			General	24 (5 hour rate)	—	
				cold region	38 (5 hour rate)	—	
Starter motor brush length (mm)					17.0	11.5	
Nathan Alta Air Conditioner	□ Resistance of the motor coil (2)				2.8～3.0	—	
	Adjustment voltage (V)				14.5±0.3	—	Load 10A, 25°C
	Compressor belt deflection (mm)			New Zhang time	5～8	—	"The center of the belt With a force of 98N {10kgf}
				When retensioning	7～10	—	"When pressed

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Power transmission related

4-Wheel Service and Parts News

term		day	Reference value	Usage limit	Abstract
clutch	clutch pedal	Play (mm)	20～30	—	
		Gap between floorboards (mm)	120 or more	—	
	clutch disc	Free thickness (mm)	7.9	6.5	
		Rotational play (mm)	—	1.0	Measured at the outer circumference
		Rivet sinking depth (mm)	1.3	0.1	
	Clutch cover flatness (mm)		0.03 or less	0.15	
transmission [5MT]	use oil		Suzuki 4-wheel gear oil 75W-90 (GL-4)		
	Oil amount (l)		1.2		
	Oil change period		Every 40,000km (every 20,000km in severe conditions)		
	Clearance between gear and synchronizer ring (mm)		1.0	0.5	
	Synchronizer ring Keyway (mm)	Low gear (mm)	9.6	10.0	
		2nd, 3rd, 4th gear	9.6	10.0	
		over top	9.6	10.0	
	Clearance between synchronizer sleeve and shifter fork (mm)		0.2～0.6	1.0	
	Thickness of the shifter fork claw (mm)	1st, 2nd	5.6～5.8	5.1	
		3rd、4th、5th	5.6～5.8	5.1	
automatic transmission [3AT]	Use o IL		Suzuki AT Oil Special (5D06)		
	Oil amount (l)	full capacity	4.1		
		Oil amount when replacing	—		
	Replacement period		Every 40,000km (Every 20,000km in spiratory conditions)		
	Hydraulic standard value (kPa {kgf/cm²})	Select lever position	D	R	
		At idle rotation K6A	870 {8.9}	1830 {18.7}	
		At idle rotation F6A	740 {7.5}	1490 {15.2}	
		During stall rotation K6A	870 {8.9}	1830 {18.7}	
		During stall rotation F6A	740 {7.5}	1490 {15.2}	
	Stall rotation (rpm)	K6A engine	3750～4050	3650～3950	
		F6A engine	3250～3550	3200～3500	
transfer	I'm good at using it		Suzuki 4-wheel gear oil 75W-90 (GL-4)		
	Oil amount (l)		0.8		
	period		Every 40,000km (every 20,000km in severe conditions)		
differential	used Oil		Suzuki 4-Wheel Super Gear Oil 80W/90 (GL-5)		
	Yarn volume (l)		Front: 1.35, Rear: 1.5		
	Oil replacement time		Every 40,000km (every 20,000km in severe conditions)		
	Bevel gear backlash (mm)	front	0.08～0.18	—	
		rear	0.1～0.2	—	
	Bevel pinion bearing preload (N・m[kgf・cm})	front	0.5～1.3 {5.1～13.3}	—	
		rear	0.9–1.7 (9.2–17.3)	—	
Propeller shaft runout (mm)			0.8	1.3 or less	

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Steering related

item			Reference value	Usage limit	Abstract
front wheel alignment	Toin — (mm)		2～6	—	
	Kiki Yamba		1° 00′ ±1°	—	
	Yasuta		2° 30′ ±1°	—	
	Cut angle	inside	29° 00′ ±3°	—	
		outside	26° 00′ ±3°	—	
	Side slip (m/km)		IN3.0～0	—	
Steering wheel circumference play (mm)			0～30	—	
Steering pinion rotation starting torque (N・m [kgf・cm])			0.7~1.3 (7.5~13.0)	—	

Braking device related

item			Reference value	Usage limit	Summary
brake pedal	play (mm)		1～8	—	
	Gap between floorboard and floor (mm)		95 or more	—	Pedal force 300N {31kgf}
Rinta master cylinder inner diameter (mm)			22.2	—	
(front) disc brake DeBraile	Wheel cylinder inner diameter (mm)		51.1	—	
	Pad thickness (mm)		10.0	3.0	
	disk	Thickness (mm)	10.0	8.0	
		Runout (mm)	—	0.15 or less	Measured about 10 mm inside from the outer circumference
(rear) Drum brake	Wheel cylinder inner diameter (mm)		22.2	—	
	Brake drum inner diameter (mm)		220	222	
	Brake lining thickness (mm)		5.0 (7.0)	1.0 (3.0)	( ) includes slush funds
	Gap between drum and lining (mm)		—	—	self-adjusting
parking brake	Pull allowance (notch)		3～6	—	operating power At 200N {20.4kgf}
	Brake drum inner diameter (mm)		—	—	Shared with rear brake
	Brake lining thickness (mm)		—	—	↑
	Drum lining clearance (mm)		—	—	↑

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Tire/wheel related

item			Reference value	Usage limit	Abstract
wheels	Bearing axial play (mm)	front	0.05 or less	—	
		rear	0～0.8	—	
	rim swing (mm)		1.2 or less	—	Measured around the circumference of the rim
	rim size method (mm)		16×4.50E, offset 22, P.C.D 139.7 (6.00-16-4PR)		
			16×51/2JJ, offset 22, P.C.D 139.7 (175/80R16 91Q)		
tire	Residue Groove (mm)		—	1.6 or higher	
	Rules	front wheel	6.00-16-4PR, 175/80R16 91Q		
		rear wheel			
		spare tire	↑		
	Air pressure (kPa{kgf/cm²})	front wheel	140 {1.4}		
		rear wheel	180 {1.8}		
		spare tire	↑		

suspension system

item		Reference value	Usage limit	Abstract
alignment rear wheel	Toin — (mm)	0	—	
	Kyamba	0° 00′	—	
	Side slip (m/km)	—	—	

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