

WORKSHOP MANUAL

TF SERIES

AXLE SHIFT ON THE FLY SYSTEM

SECTION 4C2

ISUZU

ISUZU



International Service & Parts
Tokyo, Japan

NOTICE

Before using this Workshop Manual to assist you in performing vehicle service and maintenance operations, it is recommended that you carefully read and thoroughly understand the information contained in Section 0A under the headings "GENERAL REPAIR INSTRUCTIONS" and "HOW TO USE THIS MANUAL".

All material contained in this Manual is based on the latest product information available at the time of publication.

All rights are reserved to make changes at any time without prior notice.

Applicable Model : TFS

This manual is applicable to 2000 year model vehicle.

SECTION 4C2

SERVICE INFORMATION

CONTENTS

	PAGE
Troubleshooting	4C2- 2
Shift on The Fly System	4C2- 3
Service Standard	4C2- 5
Servicing	4C2- 6
Fixing Torque	4C2- 9
Special Tools	4C2-10
Unit Repair	4C2-11
Front Drive Axle Assembly.....	4C2-11
Shift on The Fly System	4C2-15
Front Hub and Disc (4WD Model Normal Hub).....	4C2-23
Shift on The Fly System Electric Equipment.....	4C2-28

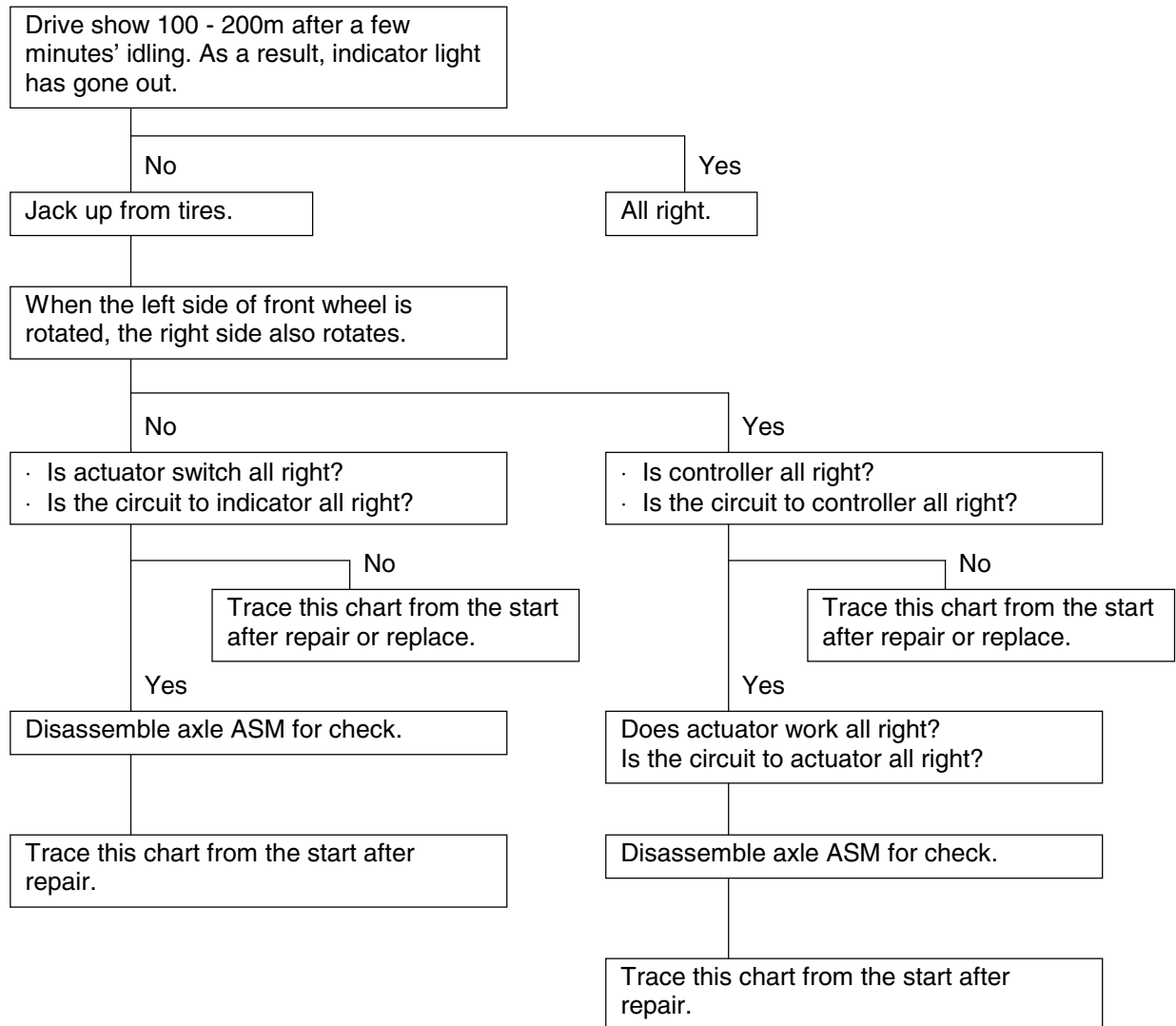
TROUBLESHOOTING

FRONT DRIVING AXLE

PROBLEM	POSSIBLE CAUSE	CORRECTION
Oil Leak At Front Axle	1. Worn or defective oil seal. 2. Front axle housing cracked.	1. Replace the oil seal. 2. Repair or replace.
Oil Leak At Pinion Shaft	1. Too much gear oil. 2. Oil seal worn or defective. 3. Pinion flange loose or damaged.	1. Correct the oil level. 2. Replace the oil seal. 3. Tighten or replace.
Noises In Front Axle Drive Shaft Joint	Broken or worn drive shaft joints and bellows (BJ and DOJ)	Replace the drive shaft joints and bellows.
"Clank" When Accelerating From "Coast"	1. Loose drive shaft joint to output shaft bolts. 2. Damaged inner drive shaft joint.	1. Tighten. 2. Replace.
Shudder or Vibration During Acceleration	1. Excessive drive shaft joint angle. 2. Worn or damaged drive shaft joints. 3. Sticking spider assembly (inner drive shaft joint). 4. Sticking joint assembly (outer drive shaft joint).	1. Repair. 2. Replace. 3. Lubricate or replace. 4. Lubricate or replace.
Vibration At Highway Speeds	1. Out of balance or out of round tires. 2. Front end out of alignment.	1. Balance or replace. 2. Align.
Noises in Front Axle	1. Insufficient gear oil. 2. Wrong or poor grade gear oil. 3. Drive pinion to ring gear backlash incorrect. 4. Worn or chipped ring gear, pinion gear or side gear. 5. Pinion shaft bearing worn. 6. Wheel bearing worn. 7. Differential bearing loose worn.	1. Replenish the gear oil. 2. Replace the gear oil. 3. Adjust the backlash. 4. Replace the ring gear, pinion gear or side gear. 5. Replace the pinion shaft bearing. 6. Replace the wheel bearing. 7. Tighten or replace.
Wanders and Pulls	1. Wheel bearing preload too tight. 2. Incorrect front alignment. 3. Steering linkage loose or worn. 4. Steering gear out of adjustment gear. 5. Tire worn or improperly inflated. 6. Front or rear suspension parts loose or broken.	1. Adjust the wheel bearing preload. 2. Adjust the front alignment. 3. Tighten or replace. 4. Adjust or replace the steering gear. 5. Adjust the inflation or replace. 6. Tighten or replace.
Front Wheel Shimmy	1. Wheel bearing worn or improperly adjusted. 2. Incorrect front alignment. 3. Worn ball joint or bush. 4. Steering linkage loose or worn. 5. Steering gear out of adjustment. 6. Tire worn or improperly inflated. 7. Shock absorber worn.	1. Adjust or replace. 2. Adjust the front alignment. 3. Replace the ball joint or bush. 4. Tighten or replace. 5. Tighten or replace. 6. Replace or adjust the inflation. 7. Replace the shock absorber.

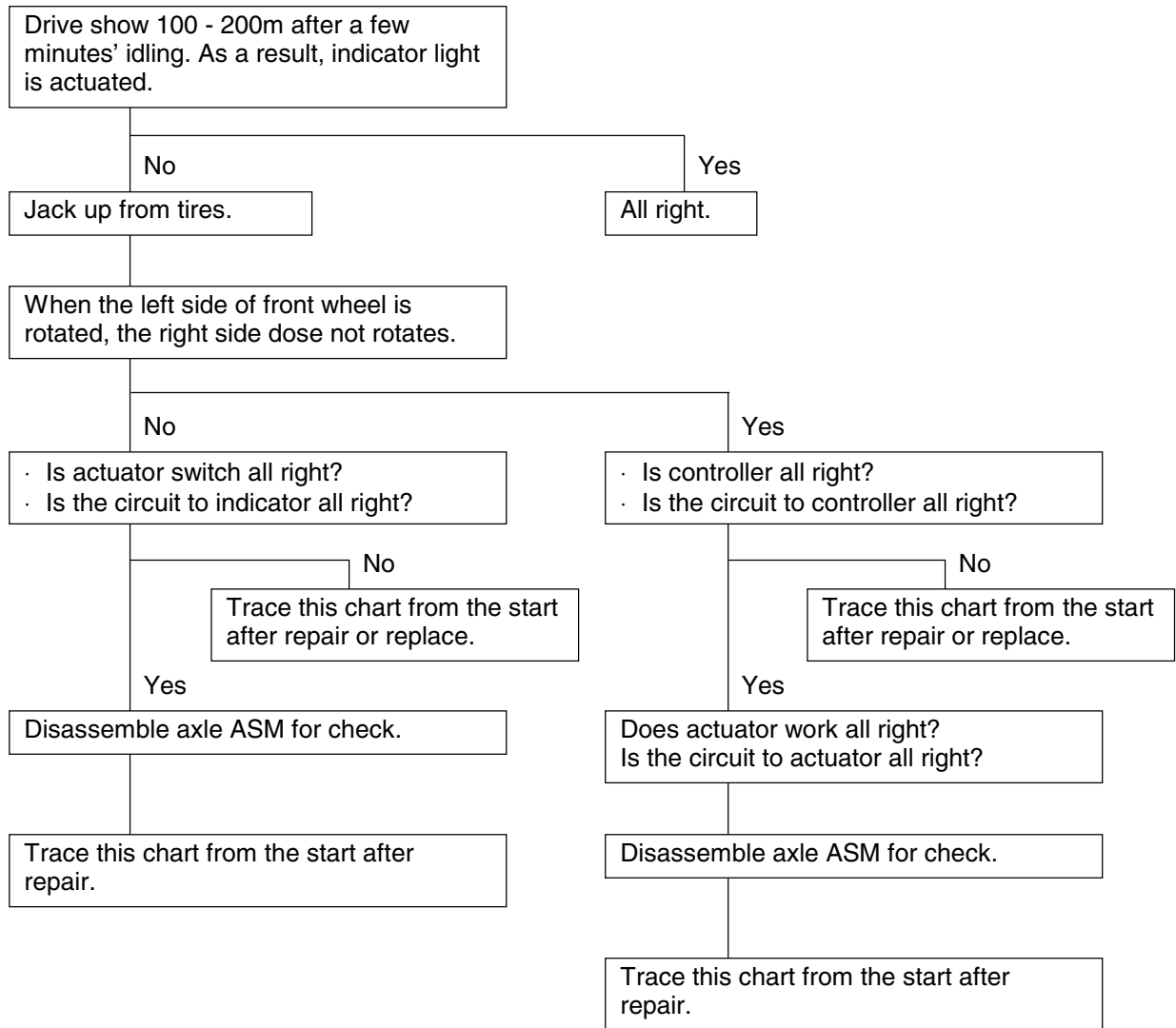
SHIFT ON THE FLY SYSTEM

- When transfer lever is shifted from 4H to 2H, indicator light does not go out.



4C2-4 SERVICE INFORMATION

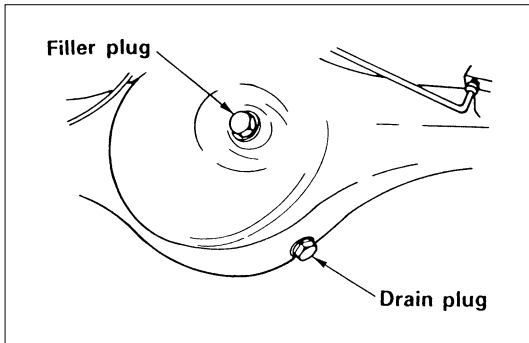
- When transfer lever is shifted from 2H to 4H, indicator light is not actuated.



SERVICE STANDARD

Items	Service Standard	Service Limit
Wear of the Thrust Washer mm (in)		1.3 (0.05)
Depth of the Differential Cage		
(A-B) (See Text) mm (in)	80.58 (3.17)	
(C) (See Text) mm (in)	10.58 (0.41)	
Depth of the Differential Cage		
(F-B) (See Text) mm (in)	82.03 (3.23)	
(G) (See Text) mm (in)	12.03 (0.47)	
Limited Slip Differential Starting Torque N-m (kg-m/lb-ft)	64-98 (6.5-10.0/47-72)	
FRONT DIFFERENTIAL		
Pinion Bearing Starting Torque		
New Bearing N-m (kg-cm/lb-in)	0.7-1.1 (6.5-11.5/5.64-9.98)	
Used Bearing N-m (kg-cm/lb-in)	0.4-0.5 (3.3-5.7/2.86-4.94)	
Ring Gear Backlash mm (in)	0.155 (0.006)	
Ring Gear Run-Out mm (in)	0.02 (0.001)	0.05 (0.002)
Clearance between the Differential Pinion and the Cross Pin mm (in)	0.06-0.12 (0.002-0.005)	0.2 (0.008)
Clearance between the Side Gear and the Differential Box mm (in)	0.03-0.10 (0.001-0.004)	0.15 (0.006)
Play in Splines between the Side Gear and the Axle Shaft mm (in)	0.07-0.36 (0.003-0.014)	0.5 (0.02)
Backlash between the Side Gear and the Pinion Gear mm (in)	0.03-0.08 (0.001-0.003)	
SHIFT ON THE FLY SYSTEM		
Inner shaft Deflection mm (in)		0.5 (0.02)
Sleeve center Groove mm (in)		7.1 (0.28)
Clutch Gear Out side diameter mm (in)		36.98 (1.46)
FRONT HUB		
Front Hub Bearing Preload		
New Bearing and New Oil Seal N (kg/lb)	20-25 (2-2.5/4.4-5.5)	
Reused Bearing and New Oil Seal N (kg/lb)	12-18 (1.2-1.8/2.6-4.0)	
FRONT HUB		
Clearance between the Free Wheeling Hub Body and the Snap Ring mm (in)	0-0.3 (0-0.01)	
MANUAL LOCKING HUB GREASE AMOUNT		
Hub g (oz)	35 (1.23)	
Outer Bearing g (oz)	10 (0.35)	
Inner Bearing g (oz)	15 (0.53)	

SERVICING



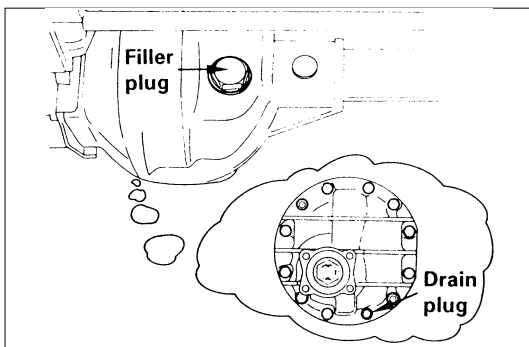
CHANGE THE REAR DIFFERENTIAL GEAR OIL

1. Remove the drain plug and filler plug and, drain the gear oil.
2. Tighten the drain plug to specified torque.

Drain Plug Torque	N·m (kg·m/lb·ft)
78 (8/58)	

3. Fill the rear axle case with hypoid gear lubricant, to just below the filler hole.
4. Tighten the filler plug to specified torque.

Filler Plug Torque	N·m (kg·m/lb·ft)
78 (8/58)	



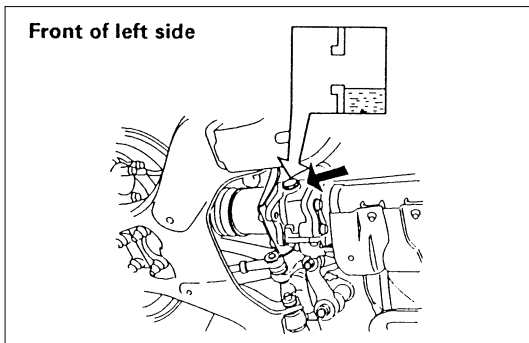
CHANGE THE FRONT DIFFERENTIAL GEAR OIL

1. Remove the drain plug and filler plug, and drain the gear oil.
2. Tighten the drain plug to specified torque.

Drain Plug Torque	N·m (kg·m/lb·ft)
25 (2.6/19)	

3. Fill the rear axle case with hypoid gear lubricant, to just below the filler hole.
4. Tighten the filler plug to specified torque.

Filler Plug Torque	N·m (kg·m/lb·ft)
78 (8/58)	



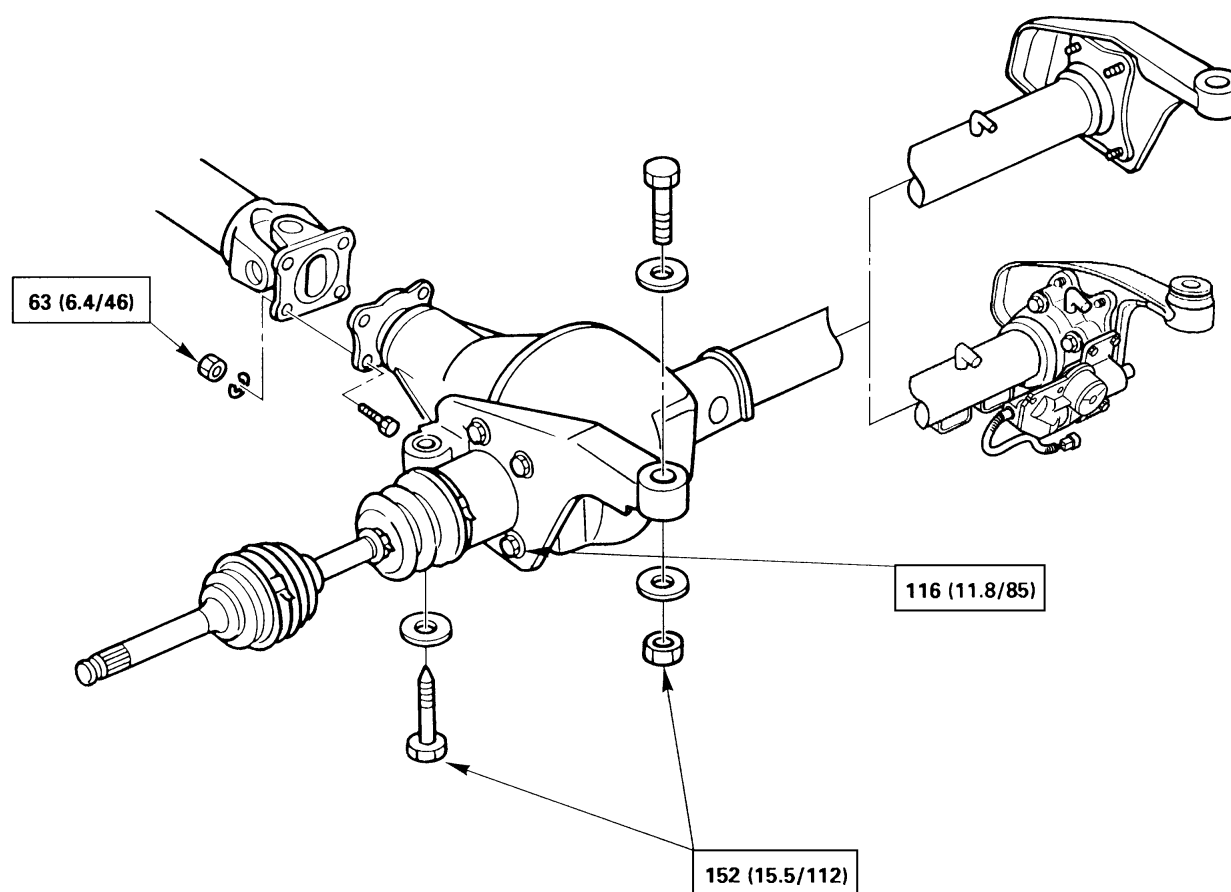
INSPECTION OF SHIFT ON THE FLY SYSTEM GEAR OIL

1. Open filler plug and make sure that the oil up to the plug port.
If the oil is short, replenish with gear oil GL-5 grade.
2. Tighten the filler plug to specified torque.

Filler Plug Torque	N·m (kg·m/lb·ft)
78 (8/58)	

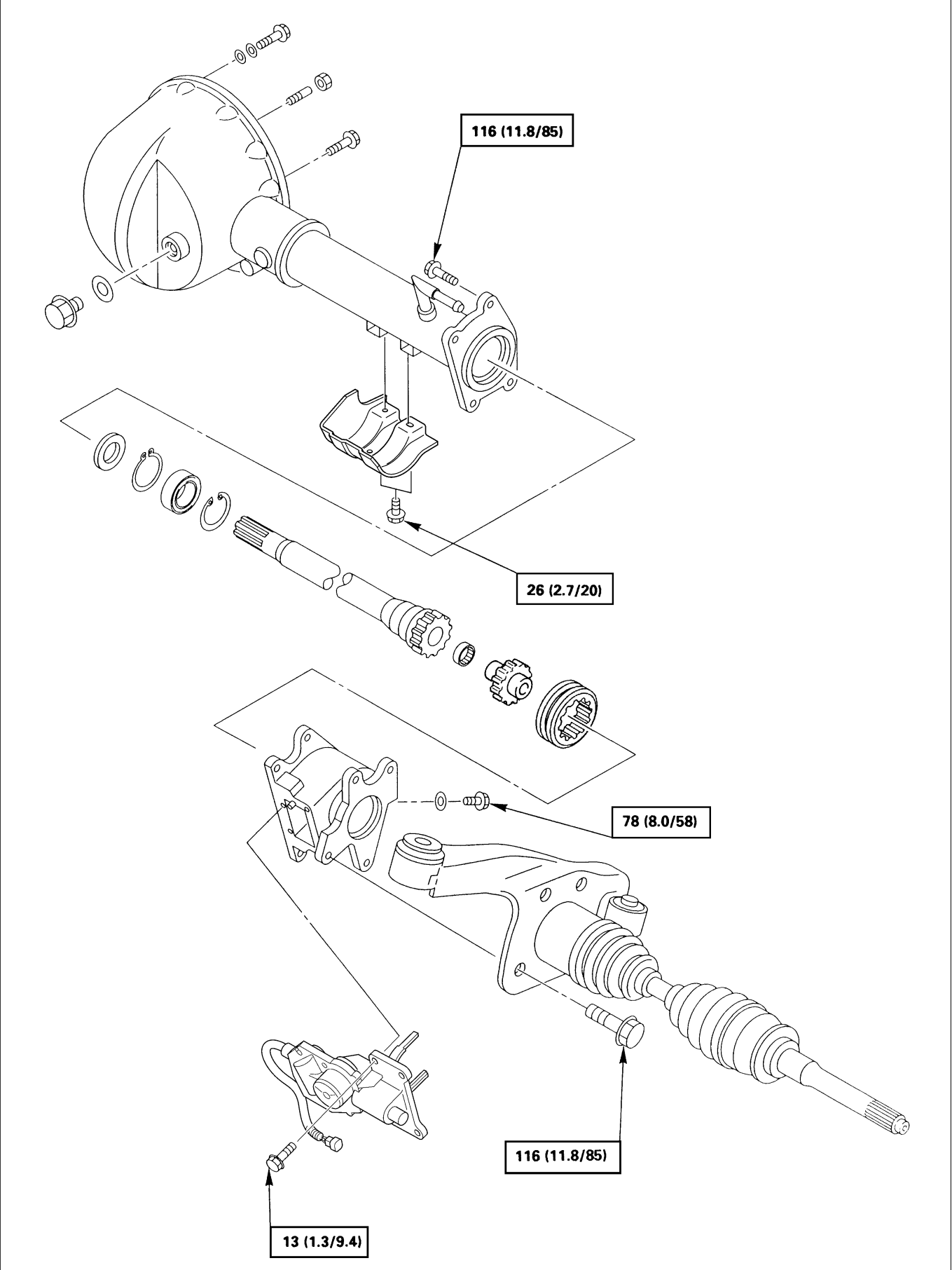
Front Drive Axle

N·m (kg·m/lb·ft)



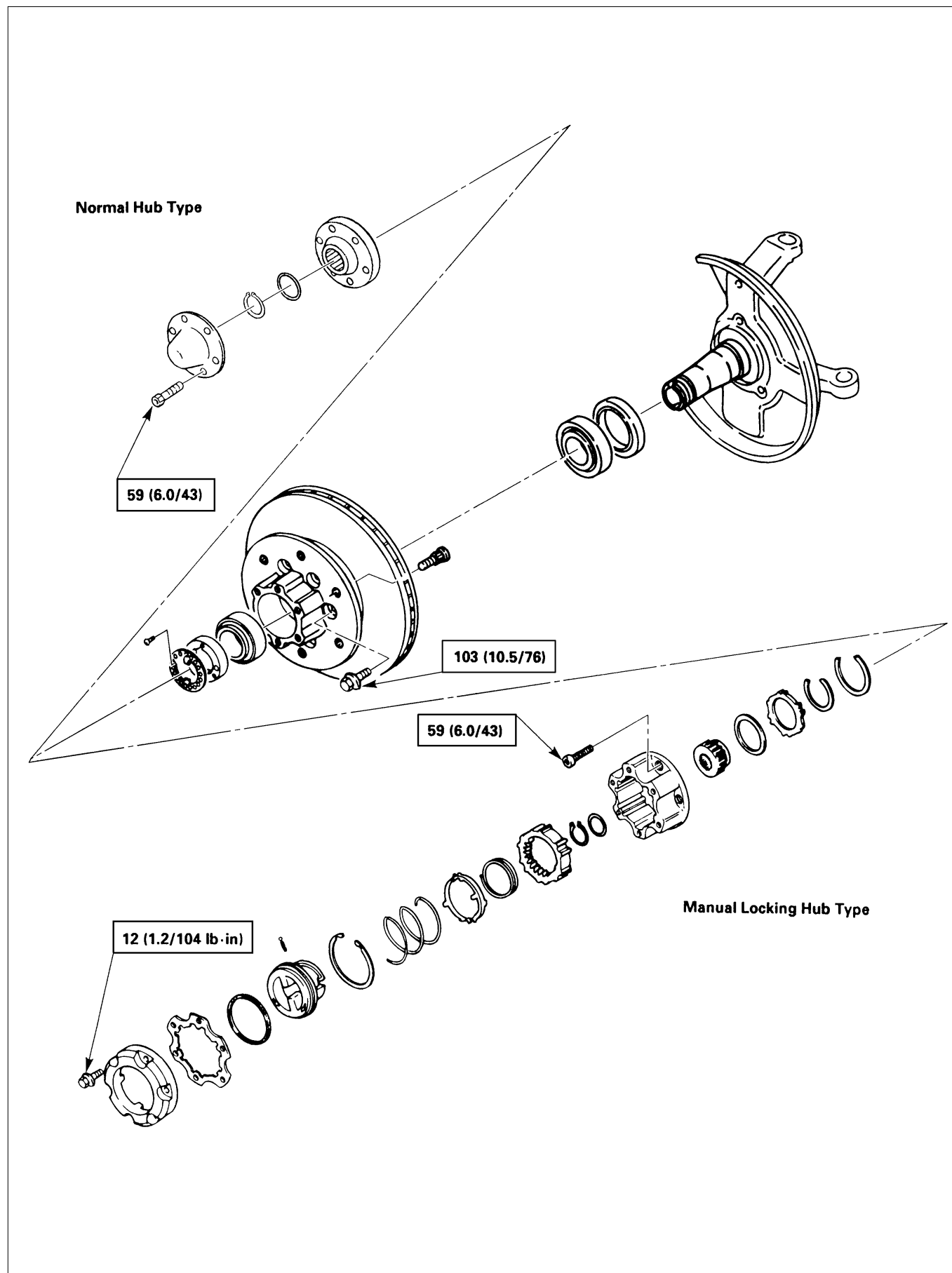
Shift On The Fly System

N·m (kg·m/lb·ft)

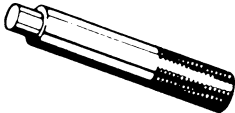
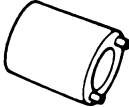
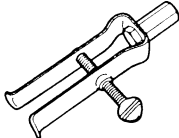
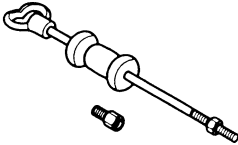
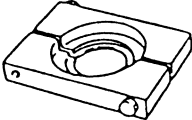


Fixing Torque

N·m (kg·m/lb·ft)

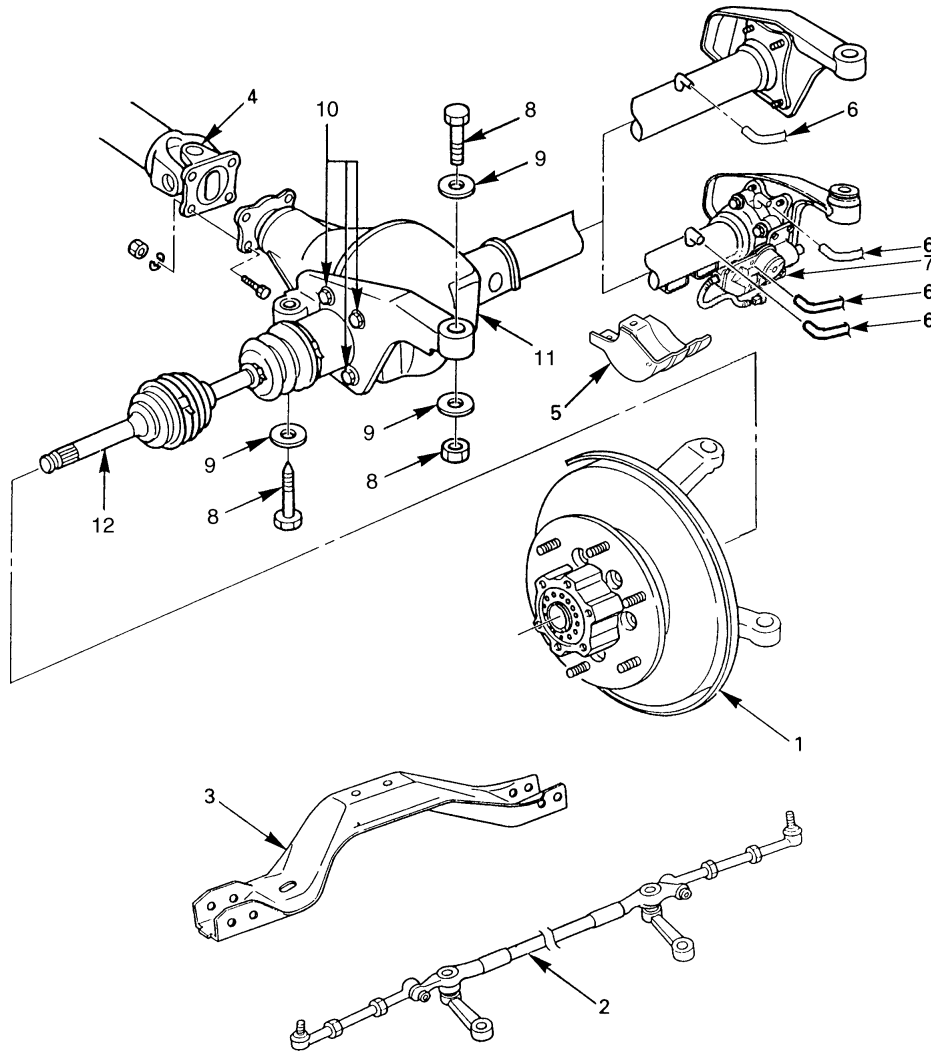


SPECIAL TOOLS

ILLUSTRATION	PARTS NO.	PARTS NAME
	5-8840-0007-0 (J-8092)	Grip
	5-8840-2117-0 (J-36827)	Wrench: Hub nut
	5-8840-2119-0 (J-36829)	Installer: Inner bearing outer race
	5-8522-0054-0 (J-29015)	Installer: Outer bearing outer race
	5-8840-2407-0 (J-41693)	Installer: Oil seal
	5-8840-2408-0 (J-41694)	Installer: Bearing needle
	5-8840-0027-0 (J-26941)	Remover: Bearing needle
	5-8840-0084-0 (J-2619-01)	Hammer: Sliding
	5-8840-2197-0 (J-37452)	Remover: Bearing inner shaft

UNIT REPAIR

FRONT DRIVE AXLE ASSEMBLY



Disassembly Steps

1. Hub assembly (Disc, back plate and knuckle)
2. Steering link and arm assembly
3. Suspension crossmember
4. Propeller shaft
5. Protector (w/shift on the fly system)
6. Breather hose
7. Actuator connector (w/shift on the fly system)
8. Mounting bolt and nut
9. Washer and spacer
10. Bolt

11. Front axle case assembly and front drive shaft assembly (LH side)
12. Front drive shaft assembly (RH side)

Reassembly Steps

To reassemble, follow the disassembly steps in the reverse order.

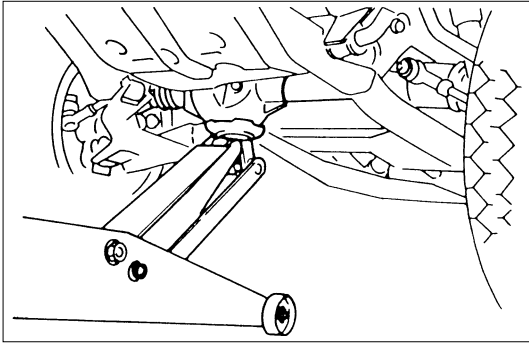


DISASSEMBLY



WARNING:

DURING THE WORK, BE SURE THAT THE DIFF CASE IS SUPPORTED BY THE JACK.



Preparations:

- Jack up the vehicle and support it using jack stands.
- Remove the tire and wheel.
- Remove the drain bolt to drain differential oil.
- Remove the brake caliper fixing bolt and hang the caliper. Refer to Section 5A2 "HYDRAULIC FOUNDATION BRAKES".

1. Hub Assembly (Disc, Back Plate and Knuckle)

- Remove the locking hub. Refer to this Section "FRONT HUB AND DISC".
- Disconnect the knuckle and the suspension arm. Refer to Section 3C "FRONT SUSPENSION".

2. Steering Link and Arm Assembly

Refer to Section 3B3 "STEERING LINKAGE".

3. Suspension Crossmember

4. Propeller Shaft

Refer to Section 4A "PROPELLER SHAFT".

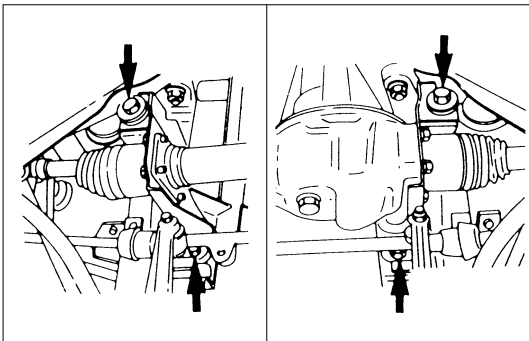
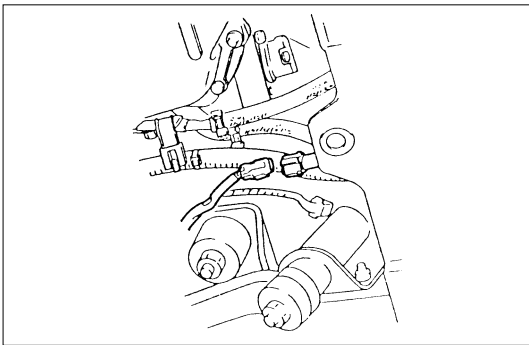
5. Protector (w/shift on the fly system)

6. Breather Hose

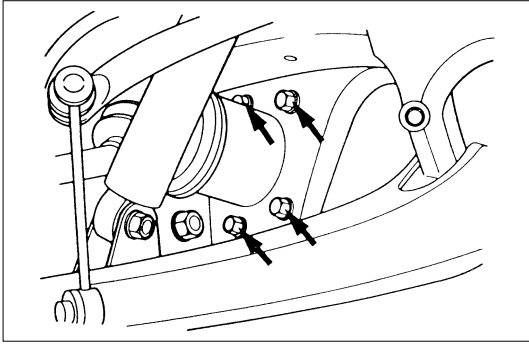
- Disconnect breather hose from front drive axle.

7. Connector (w/shift on the fly system)

- Disconnect actuator connector.
- Disconnect shift detective switch connector.



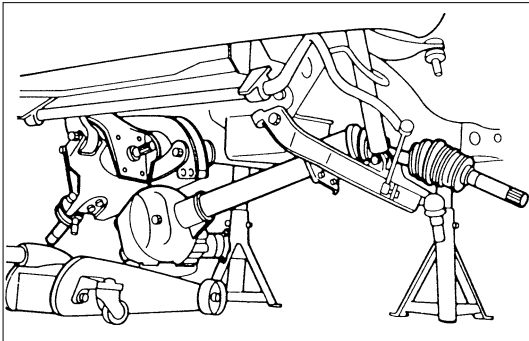
8. Mounting Bolt and Nut



9. Washer and Spacer

10. Bolt

Remove the mounting bracket fixing bolt.



11. Front Axle Case Assembly and Front Drive Shaft

Assembly (LH side).

Lower the vehicle and disconnect the RH front drive shaft assembly, and then remove the front axle case assembly and front drive shaft assembly (LH).

12. Front Drive Shaft Assembly (RH side)



REASSEMBLY

12. Front Drive Shaft Assembly (RH side)

Lay the assembly on the lower arm.

11. Front Axle Case Assembly and Front Drive Shaft

Assembly (LH side)

Place the axle case on the jack, connect to the front drive shaft assembly (RH) before installing to the vehicle.

10. Bolt



Tighten the mounting bracket fixing bolt to the specified torque.

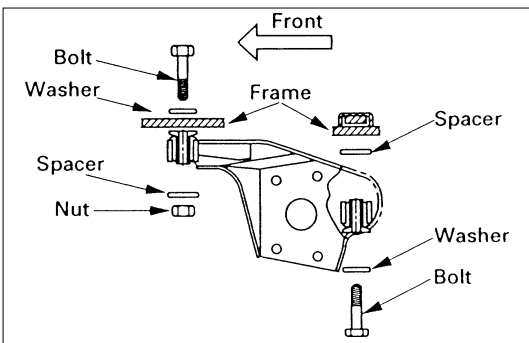
Mounting Bracket Fixing Bolt Torque	N·m (kg·m/lb·ft)
116 (11.8/85)	

9. Washer and Spacer

8. Mounting Bolt and Nut

Tighten the mounting bolt and nut to the specified torque.

Front Drive Axle Case Mounting Bolt and Nut Torque	N·m (kg·m/lb·ft)
152 (15.5/112)	



7. Connector (W/Shift on the fly system)

Fit actuator connector.

6. Breather Hose

NOTE:

Be careful not to permit the entry of dust into the hose and connector.

5. Protector (w/shift on the fly system)



Tighten bolts to specified torque.

Bolt Torque	N·m (kg·m/lb·ft)
26 (2.7/20)	

4. Propeller Shaft

Refer to Section 4A "FRONT PROPELLER SHAFT".

3. Suspension Crossmember

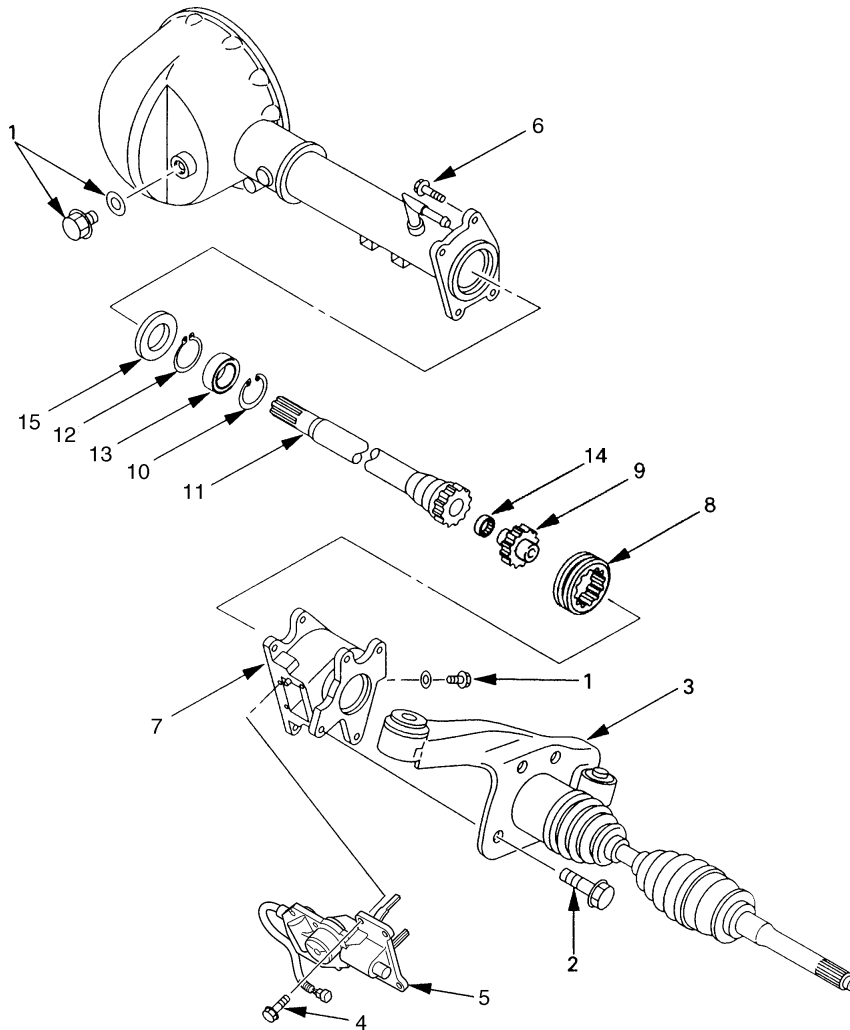
2. Steering Link and Arm Assembly

Refer to Section 3B3 "STEERING LINKAGE".

1. Hub Assembly (Disc, Back Plate and Knuckle)

Refer to Section 5A2 "HYDRAULIC FOUNDATION BRAKES" and Section 3C "FRONT SUSPENSION".

SHIFT ON THE FLY SYSTEM



Disassembly steps

1. Filler plug
2. Bolt
3. Front axle drive shaft (LH side)
4. Bolt
5. Actuator assembly
6. Bolt
7. Housing
8. Sleeve
9. Clutch gear
10. Snap ring
11. Inner shaft
12. Snap ring
13. Inner shaft bearing
14. Needle bearing
15. Oil seal

Reassembly steps

To reassemble, follow the disassembly steps in the reverse order.



DISASSEMBLY

1. Filler Plug

Remove filler plug and packing and drain oil.

2. Bolt

Loosen mounting bracket fitting bolts and remove front axle drive shaft from front axle case.

3. Front Axle Drive Shaft (LH side)

4. Bolt

Loosen actuator ASM fitting bolts.

5. Actuator Assembly

Draw out actuator ASM.

6. Bolt

Remove housing fitting bolts.

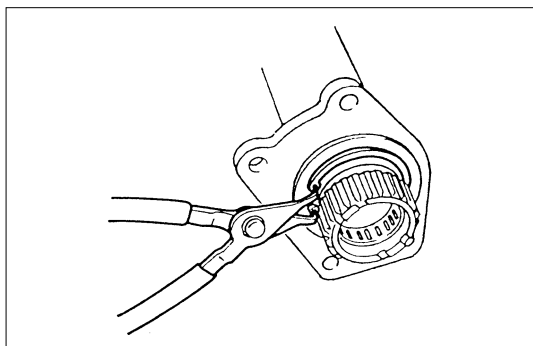
7. Housing

8. Sleeve

9. Clutch Gear

10. Snap Ring

Remove snap ring from front axle case by using a snap ring plier.

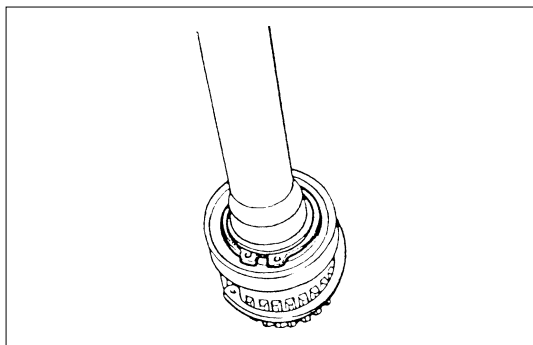


11. Inner Shaft

Take out inner shaft from front axle case.

12. Snap Ring

Remove snap ring from inner shaft by using a snap ring plier.



13. Inner Shaft Bearing

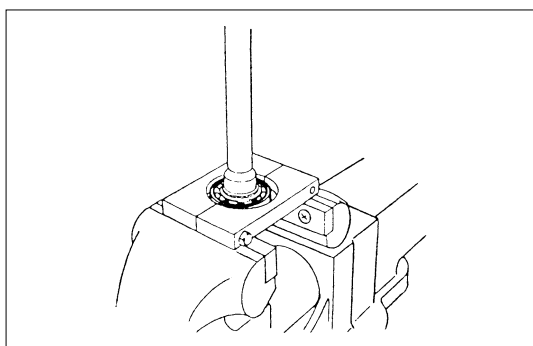


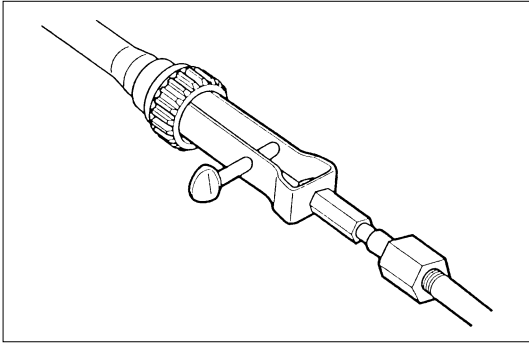
Remove inner shaft bearing by using a special tool and press.

Remover : 5-8840-2197-0 (J-37452)

NOTE:

Be careful not to damage the shaft.





14. Needle Bearing



Remove needle bearing from inner shaft by using a special tool.

Remover : 5-8840-0027-0 (J-26941)

Sliding hammer : 5-8840-0084-0 (J-2619-01)

NOTE:

Be careful not to damage the shaft.

15. Oil Seal

Remove oil seal from front axle case.

NOTE:

Be careful not to damage the front axle case.

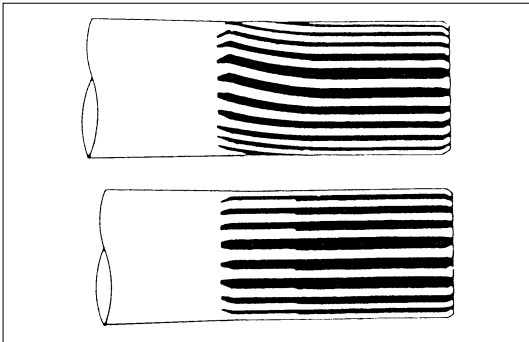
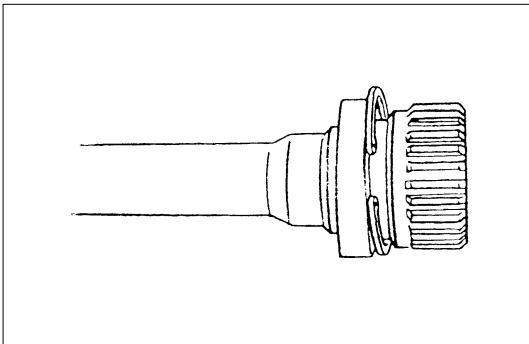


INSPECTION AND REPAIR

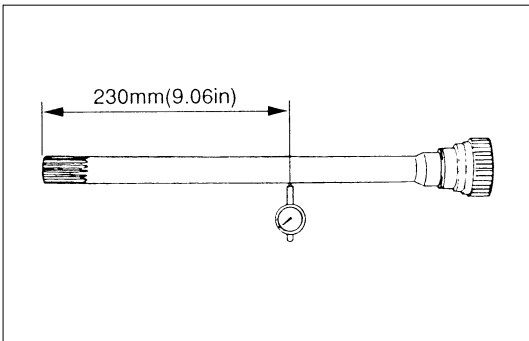
Inspect the removed parts. If there are abnormalities such as wear and damage, take corrective action or replace.

Visual Check

- Check and see if the inner shaft has such abnormalities as wear and damage.



- When inspecting the inner shaft, be sure to check and see if its splined part is twisted, worn, or cracked. If so, replace with a new shaft. In case such an abnormality in its gear part (a slide with sleeve), replace the shaft.



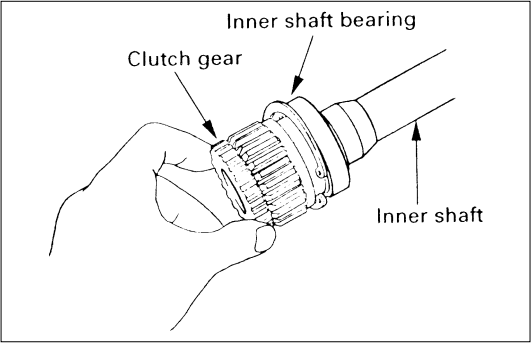
Inner Shaft Run-Out

With both end centers supported, rotate the shaft slowly and measure deflection with a dial gauge.

Inner Shaft Run-Out (Limit)	mm (in)
0.5 (0.02)	

NOTE:

Do not heat the shaft to correct its bend.



Inner Shaft Bearing

Inspect the state of inner shaft bearing. If any abnormality such as smoothlessness is found, replace with a new inner shaft bearing.
Insert a clutch gear and check the state of needle bearing. If there is an abnormality such as smoothlessness, replace the needle bearing.

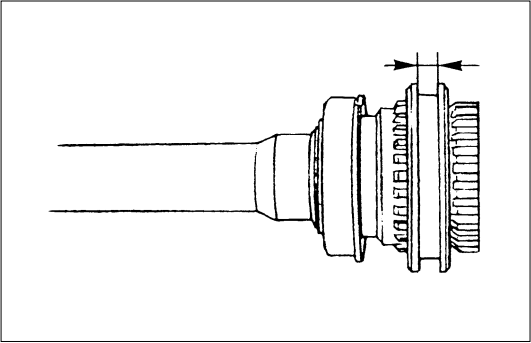
Sleeve

Visual Check

Check and see that there is not wear, damage, or cracking in the sleeve.

NOTE:

Close inspection of the groove and inner gear are required because those are important parts.

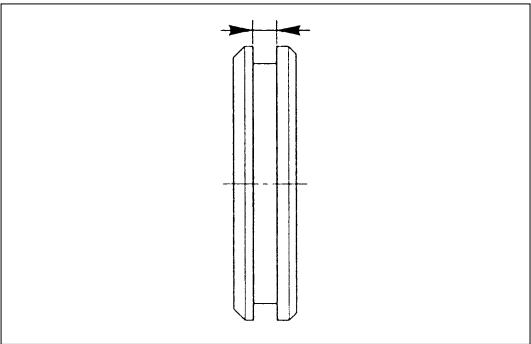


Functional Check

Operate the sleeve with the inner shaft combined with the clutch gear.
If smoothlessness is felt, replace the sleeve.

NOTE:

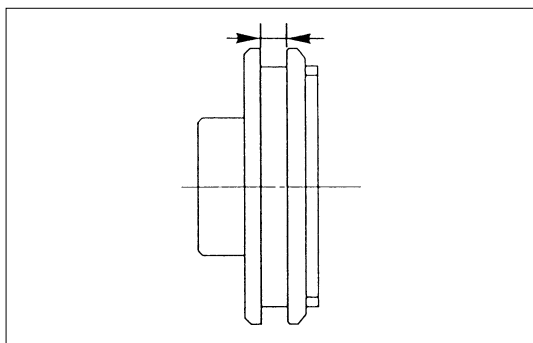
Gear oil should be applied to the contact surface of gear.



Dimensional Check

Check the width of sleeve center groove.

Sleeve Center Groove (Limit)	mm (in)
7.1 (0.28)	



Clutch Gear

Visual Check

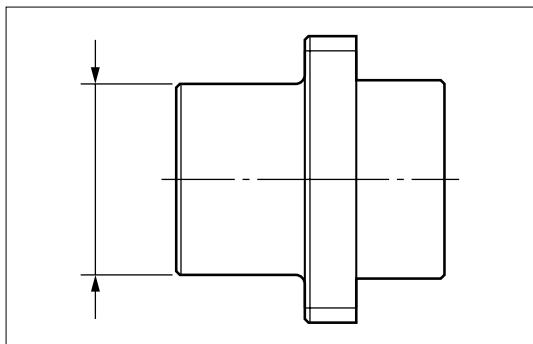
Check and see that there is not wear, damage, crack, or any other abnormality in the clutch gear.

Functional Check

If there is an abnormality such as smoothness when operated in combination with sleeve, replace the clutch gear.

NOTE:

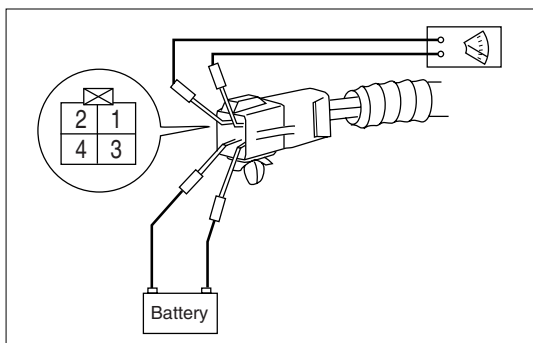
When inspecting, gear oil should be applied to the contact surface of gear.



Dimensional Inspection

Make sure of the size illustrated.

Clutch Gear Out Side Diameter (Limit)	mm (in)
36.98 (1.46)	



Actuator

Visual Check

Check and see that there is no damage, cracking, or other abnormality.

Functional Check

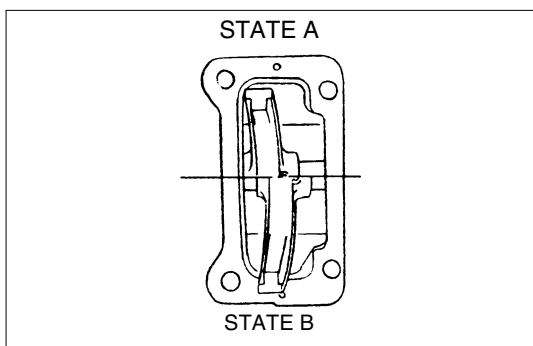
Make sure of function with voltage (12V) applied to terminal ③, ④ and set the tester to terminal ①, ② in accordance with the table below.

State	Port ③	Port ④	Port ①, ② conducting	Function
A	+	−	○	C
B	−	+	×	D

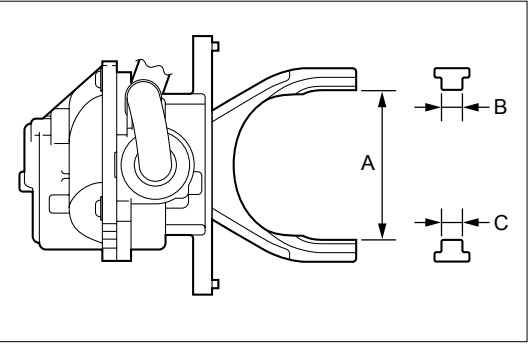
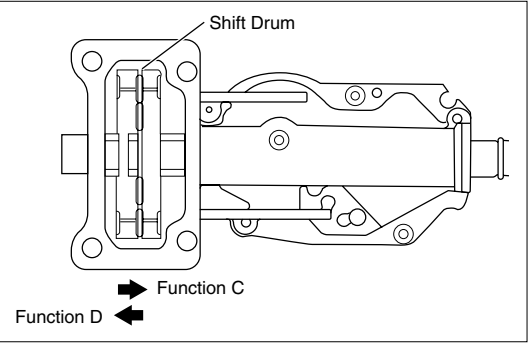
If there is an abnormality, replace the actuator as an assembly.

NOTE:

- Be careful not to permit the entry of water or dust into the ports of the actuator.



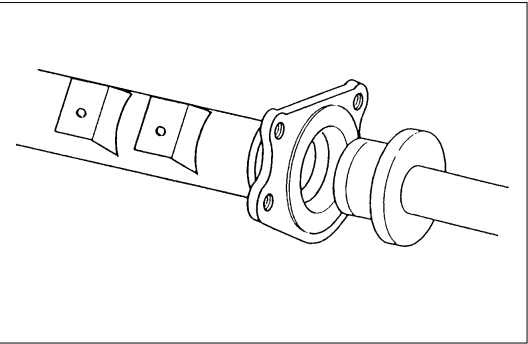
4C2-20 FRONT DRIVING AXLE



Dimensional Check

Measure illustrated sizes A, B, and C.

Limit	mm (in)
A	64.1 (2.52)
B	6.7 (0.26)
C	0.7 (0.03)



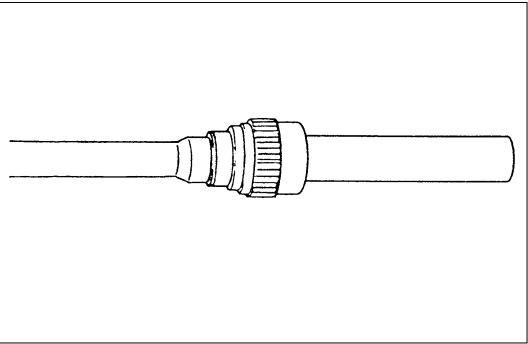
REASSEMBLY

15.Oil Seal

Install the new oil seal which has been immersed in differential gear oil, by using an oil seal installer.

Installer : 5-8840-2407-0 (J-41693)

Grip : 5-8840-0007-0 (J-8092)



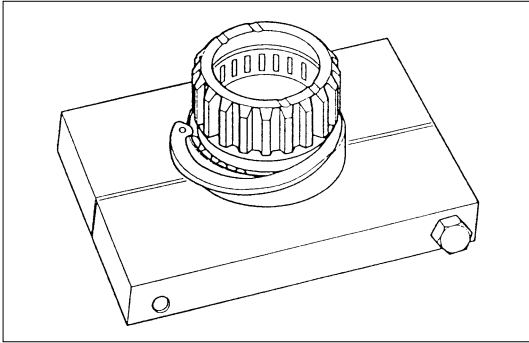
14.Needle Bearing

Force a new needle bearing into inner shaft by using a special tool.

Installer : 5-8840-2408-0 (J-41694)

Grip : 5-8840-0007-0 (J-8092)





13.Inner Shaft Bearing



- Place a new snap ring in inner shaft.
 - Force a new inner shaft bearing into the inner shaft.
- Installer : 5-8840-2197-0 (J-37452)

12.Snap Ring

NOTE:

Be careful not to damage the inner shaft.

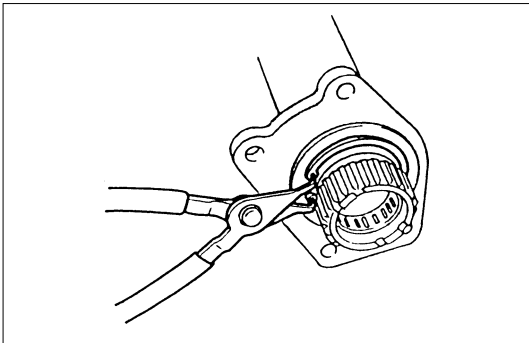
11.Inner Shaft



- Clean the housing contact surface of the front axle case.
- Insert inner shaft assembly into the front axle case.

NOTE:

Be careful not to damage oil seal.

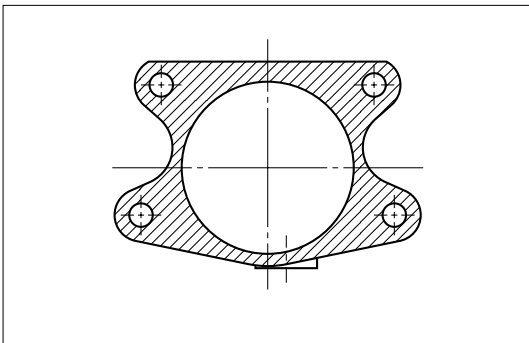


10.Snap Ring

Install snap ring in the groove of front axle case.

NOTE:

Be sure to install the snap ring properly.



9. Clutch Gear

Apply differential gear oil to clutch oil.



8. Sleeve

Apply differential gear oil to sleeve.



7. Housing

- Clean contact surface with the front axle and actuator mounting surface.
- Apply liquid gasket to the contact surface on the front axle case and install in the housing.



6. Bolt

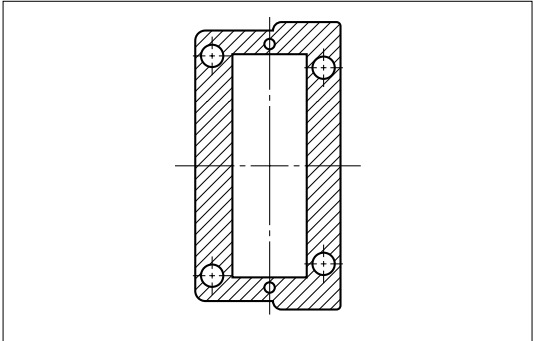


Tighten bolts to specified tightening torque.

Housing Bolt Torque

N·m (kg·m/lb·ft)

116 (11.8/85)



5. Actuator

- Clean the actuator contact surface with the housing.
- Apply liquid gasket to the contact surface on the actuator side.
- Align shift arm with the groove of sleeve and install the actuator.



4. Bolt

Tighten bolts to specified torque.

Actuator Bolt Torque	N·m (kg·m/lb·in)
13 (1.3/113)	

3. Front Axle Drive shaft (LH side)



2. Bolt

- Install front axle drive shaft and mounting bracket.
- Tighten fitting bolts to specified tightening torque.

Bolt Torque	N·m (kg·m/lb·ft)
116 (11.8/85)	



1. Filler Plug

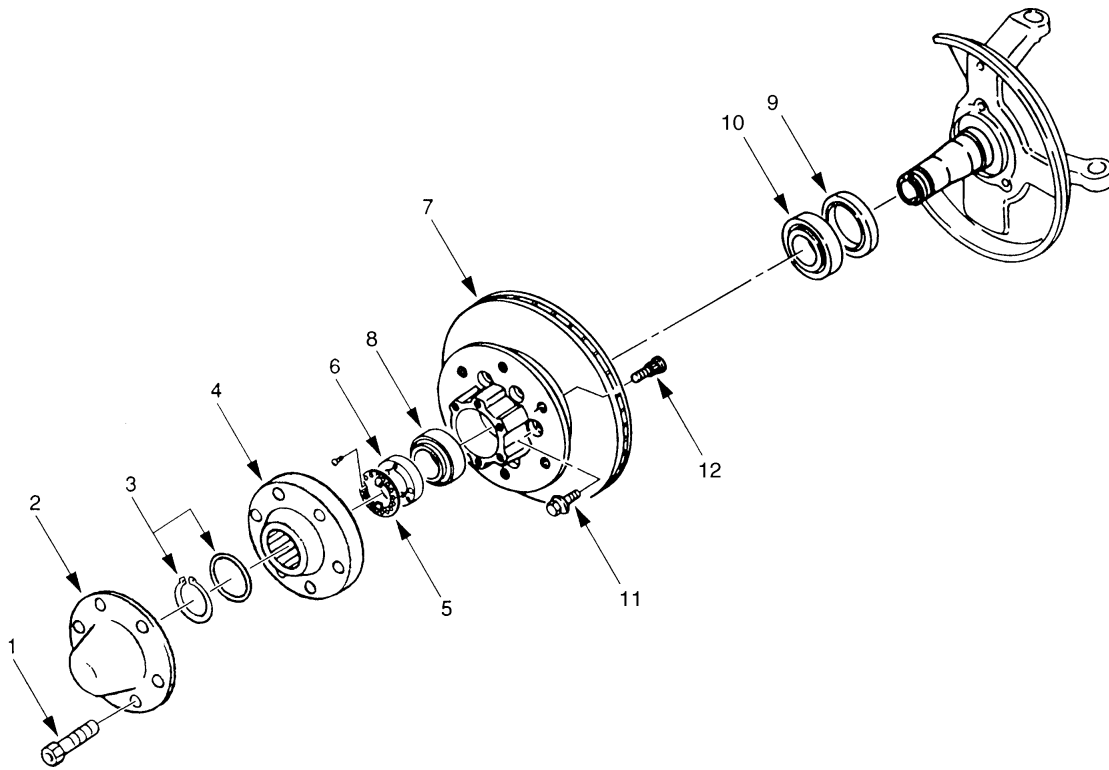
- Pour specified amount of differential gear oil.

Front Differential Oil Capacity	lit (Impq+/USqt)
1.5 (1.32/1.59)	
Actuator Housing Oil Capacity	lit (Impq+/USqt)
0.12 (0.11/0.13)	



- Install filler plug through packing and tighten to specified torque.

Filler Plug Torque	N·m (kg·m/lb·ft)
7.8 (8.0/58)	

FRONT HUB AND DISC (4WD Model Normal Hub)**Disassembly Steps**

1. Bolt
2. Hub cap
3. Snap ring and shim
4. Hub flange
5. Lock washer and lock screw
6. Hub nut
7. Hub and disc assembly
8. Outer bearing outer race
9. Oil seal
10. Inner bearing outer race
11. Bolt
12. Wheel pin

Reassembly Steps

12. Wheel pin
11. Bolt
10. Inner bearing outer race
9. Oil seal
8. Outer bearing outer race
7. Hub and disc assembly
6. Hub nut
5. Lock washer and lock screw
4. Hub flange
3. Snap ring and shim
2. Hub cap
1. Bolt



DISASSEMBLY

- Before disassembly, jack up the front of vehicle and support frame with jack stands.
- Remove the disc brake caliper assembly and hang it on the frame with wires (Refer to Section 5A "HYDRAULIC FOUNDATION BRAKES")

1. Bolt

Before removal, shift transfer lever into "2H" position.

2. Hub cap

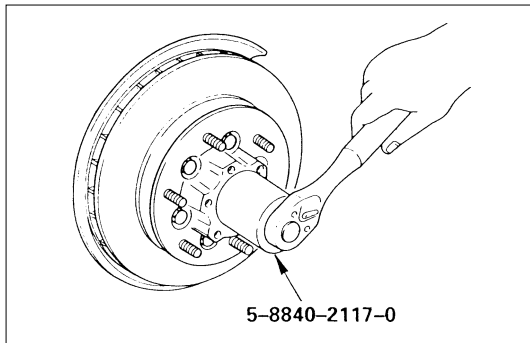
3. Snap Ring and Shim

4. Hub flange

5. Lock Washer and Lock Screw

6. Hub nut

Wrench: 5-8840-2117-0 (J-36827)



7. Hub and Disc Assembly

8. Outer Bearing Outer Race

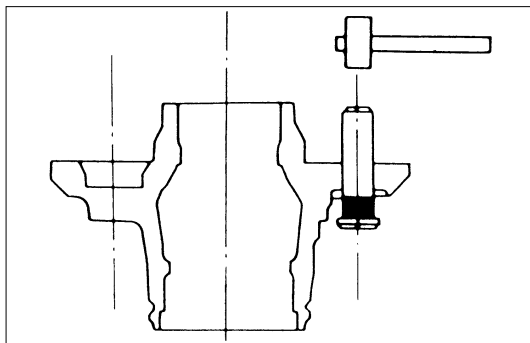
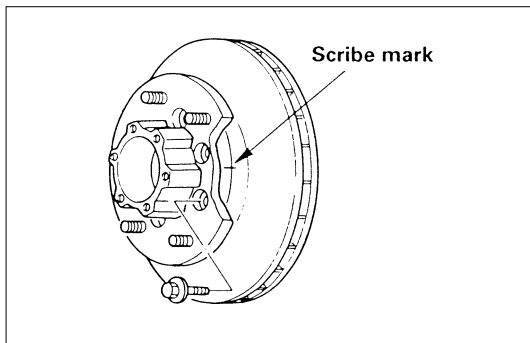
9. Oil Seal

10. Inner Bearing Outer Race

11. Bolt

If necessary, replace the wheel pin in the following manner.

- 1) Apply a scribe mark to disc to hub.
- 2) Clamp the hub and disc assembly in a vise, using protective pads. Remove the 6 disc-to-hub retaining bolts.



12. Wheel Pin

Place hub on a suitable work surface and remove the wheel studs, as required, using a hammer.



INSPECTION AND REPAIR

Make necessary correction or parts replacement if wear, damage, corrosion or any other abnormal condition are found through inspection.

Check the following parts.

- Hub
- Hub bearing oil seal
- Knuckle spindle
- Disc
- Caliper
- Shift on the fly system parts (Cap, Hub flange, Shim, Snap ring)

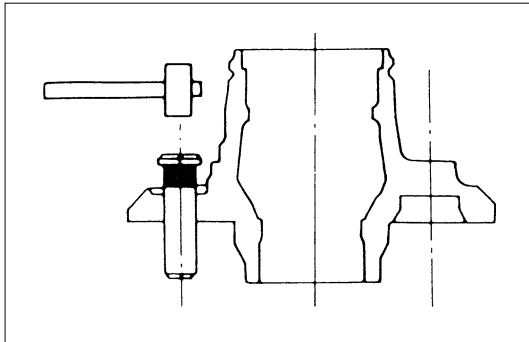
For inspection and servicing of disc caliper and related parts, refer to Section 5A2 "DISC BRAKES".



REASSEMBLY

12.Wheel Pin

- 1) Place the hub on a wood workbench or a block of wood approx. 6 "by 6" to protect the wheel stud ends and threads.
- 2) Insert a wheel stud using a hammer.
Be sure the wheel stud is started squarely and seats completely.



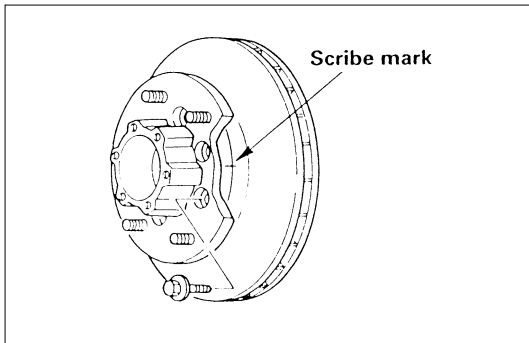
11.Bolt



Align scribe marks and attach the hub to the disc.
Tighten the bolts to the specified torque.



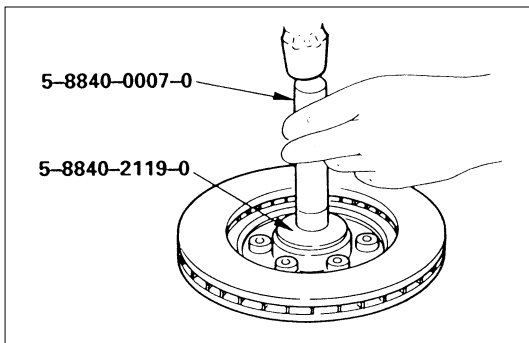
Hub Bolt Torque	N·m (kg·m/lb·ft)
103 (10.5/76)	

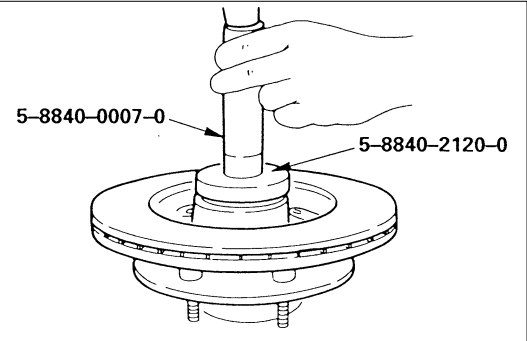


10.Inner Bearing Outer Race



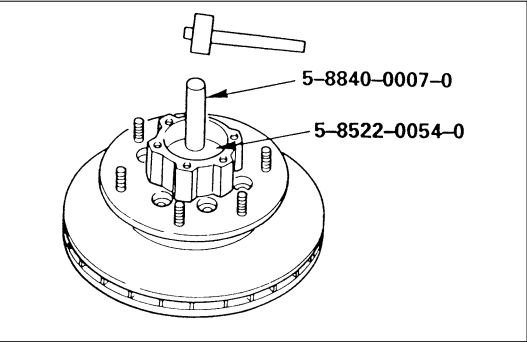
Install the outer race; inner bearing by driving it into the hub.
Installer : 5-8840-2119-0 (J-36829)
Grip : 5-8840-0007-0 (J-8092)





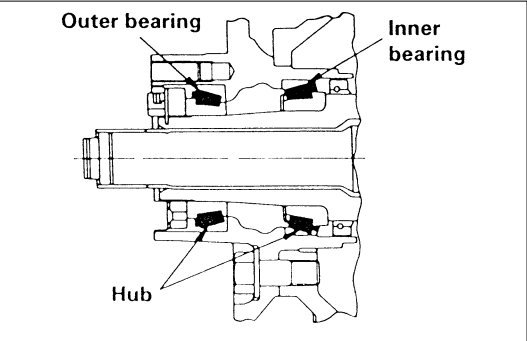
9. Oil Seal

Installer : 5-8840-2120-0 (J-36830)
Grip : 5-8840-0007-0 (J-8092)
Apply grease (Besco L-2 or equivalent) to the lip portion.



8. Outer Bearing Outer Race

Install the outer race; outer bearing by driving it into the hub.
Installer : 5-8522-0054-0 (J-29015)
Grip : 5-8840-0007-0 (J-8092)

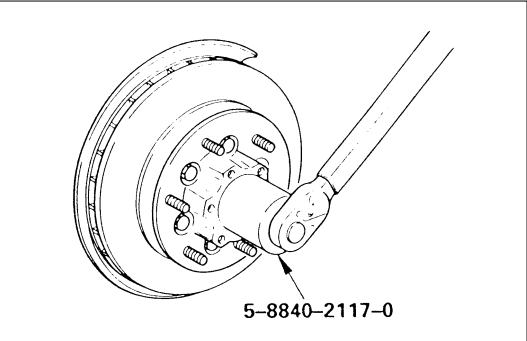


7. Hub and Disc Assembly

- 1) Apply grease in the hub.
- 2) Apply wheel bearing type grease NLGI No.2 or equivalent to the outer and inner bearing.



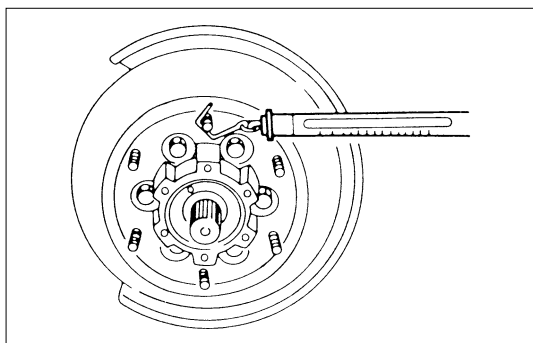
Grease Amount		g (oz)
Hub	35 (1.23)	
Outer bearing	10 (0.35)	
Inner bearing	15 (0.53)	



6. Hub Nut

- 1) Turn the place where there is a chamfer in the tapped hole to the outer side, and attach the nut.
Wrench: 5-8840-2117-0 (J-36827)





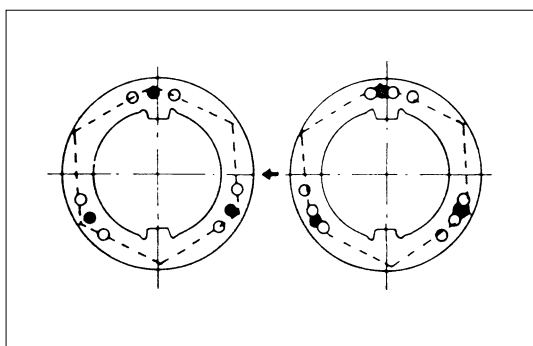
Preload Adjustment

Tighten the hub nut to 29 N·m (3.0 kg·m/22 lb·ft), then fully loosen the nut.

Tighten the hub nut to the value given below, using a spring scale on the wheel pin.

Bearing Preload		N (kg/lb)
New bearing and New oil seal		20-25 (2-2.5/4.4-5.5)
Used bearing and New oil seal		12-18 (1.2-1.8/2.6-4.0)

If the measured bearing preload is outside the specifications, adjust it by loosening or tightening the bearing nut.



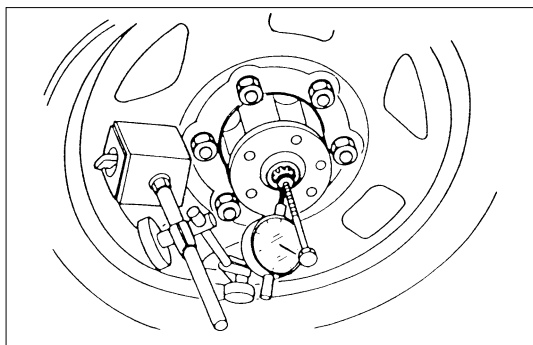
5. Lock Washer and Lock Screw

Turn the side with larger diameter of the tapered bore to the vehicle outer side, and attach the washer.

If the bolt holes in the lock plate are not aligned with the corresponding holes in the nut, reverse the lock plate.

If the bolt holes are still out of alignment, turn in the nut just enough to obtain alignment.

Screw is to be fastened tightly so its head may come lower than the surface of the washer.



4. Hub flange

- Apply adhesive (LOCTITE 515 or equivalent) to both joining faces.



3. Snap Ring and Shim

Adjust the clearance between the free wheeling hub body and the snap ring.

Clearance between the Free Wheeling Hub Body and the Snap Ring	mm (in)
	0-0.3 (0-0.012)
Adjust Shims Available	mm (in)
	0.2, 0.3, 0.5, 1.0 (0.008, 0.012, 0.020, 0.039)

2. Hub cap

1. Bolt

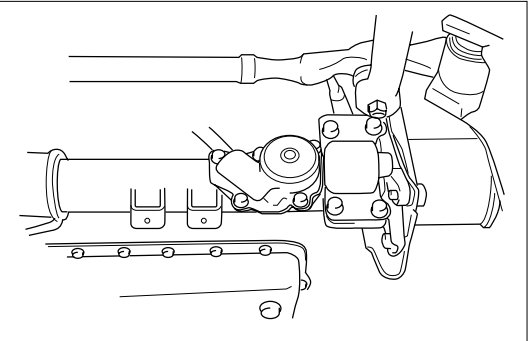
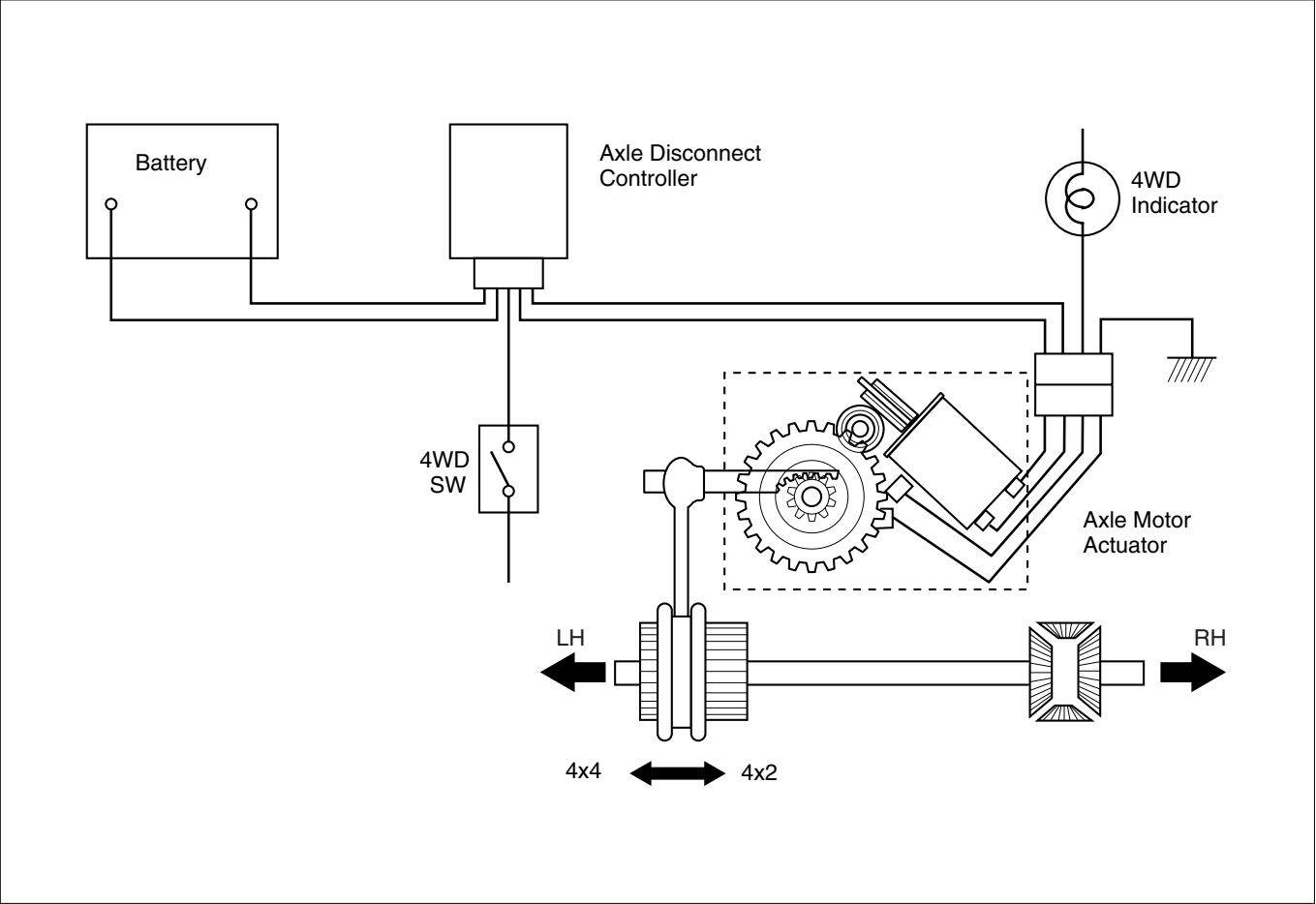
Tighten the bolts to the specified torque.

Cover Bolt Torque	N·m (kg·m/lb·ft)
	59 (6.0/43)

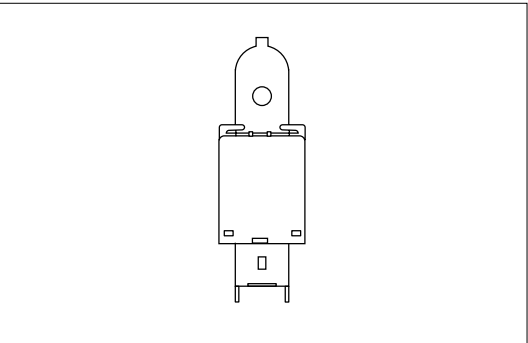


SHIFT ON THE FLY SYSTEM ELECTRIC EQUIPMENT

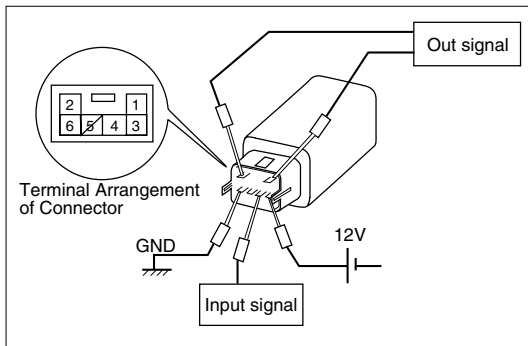
DIAGRAM



ACTUATOR ASSEMBLY



Axle Disconnect Controller



Checking procedure for the controller's trouble.

	Input signal	Output signal	
		①	②
2WD→4WD	Hi	0V	12V
4WD→2WD	Lo	12V	0V

1. Connect the terminal ③ to the 12V pin, and connect the terminal ⑥ to the ground (GND).
2. Apply the input signal to the terminal ④.
 2WD→4WD More than 9.0V
 4WD→2WD Less than 1.5V
3. Make sure the output signal from the terminal ① and ②.
 (The output signal is outputted for 2 seconds.)

TFSOF-WE-0091

You are requested to order this manual using the manual number that is shown above.

This manual is applicable for vehicles in all countries except the USA, and Canada.

All rights reserved. This manual may not be reproduced in whole or in part, without the permission in writing of ISUZU MOTORS LIMITED.

Issued by

ISUZU MOTORS LIMITED

INTERNATIONAL SERVICE DEPARTMENT

Shinagawa-ku, Tokyo 140-8722, Japan

Fax: +81-3-5471-1093

Tel: +81-3-5471-1315

First edition Aug., 1999

0911-01A-3

