FOREWORD

Thank you very much for your purchasing of a Hino vehicle.

This Owner's Manual contains many practical tips on operation, procedures for daily and periodic maintenance, and important information to help you enjoy safe and trouble-free operation of your vehicle. Please read this manual carefully and thoroughly.

New Vehicle Warranty

Your new vehicle is covered by the following Hino warranties.

- **New vehicle warranty**
- **Emission control systems warranty**
- **Noise emissions warranty**

⚠ WARNING
Any modification of the vehicle or engine other than Hino specified maintenance can adversely affect the performance, safety and reliability of the vehicle, and can result in the breach of governmental regulations. It will also invalidate your Hino warranty.

Read very carefully those sections which have signs "⃠", **"WARNING"** and **"CAUTION". They are particularly important.**

⃠	In this manual, you will also see a circle with a slash through it. This means "Do not do this", or "Do not let this happen".
⚠ **WARNING**	Items that can result in death or severe personal injury if handled improperly.
⚠ **CAUTION**	Items that can result in personal injury and/or property damage, such as vehicle damage, if handled improperly.
NOTICE	This is a warning against anything which may cause damage to the vehicle or its equipment if the warning is ignored.

FOREWORD

Thank you very much for your purchasing of a Hino vehicle.

This Owner's Manual contains many practical tips on operation, procedures for daily and periodic maintenance, and important information to help you enjoy safe and trouble-free operation of your vehicle. Please read this manual carefully and thoroughly.

New Vehicle Warranty

Your new vehicle is covered by the following Hino warranties.

- **New vehicle warranty**
- **Emission control systems warranty**
- **Noise emissions warranty**

⚠ WARNING
Any modification of the vehicle or engine other than Hino specified maintenance can adversely affect the performance, safety and reliability of the vehicle, and can result in the breach of governmental regulations. It will also invalidate your Hino warranty.

Read very carefully those sections which have signs "⃠", **"WARNING"** and **"CAUTION". They are particularly important.**

⃠	In this manual, you will also see a circle with a slash through it. This means "Do not do this", or "Do not let this happen".
⚠ **WARNING**	Items that can result in death or severe personal injury if handled improperly.
⚠ **CAUTION**	Items that can result in personal injury and/or property damage, such as vehicle damage, if handled improperly.
NOTICE	This is a warning against anything which may cause damage to the vehicle or its equipment if the warning is ignored.

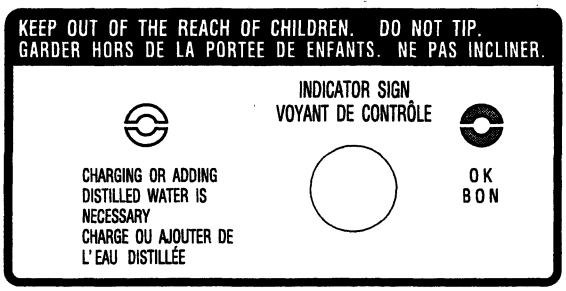
© 2005 Hino Motors, Ltd.

All rights reserved. This material may not be reproduced or copied, in whole or in part, without the written permission of Hino Motors, Ltd.

i H1A016E01

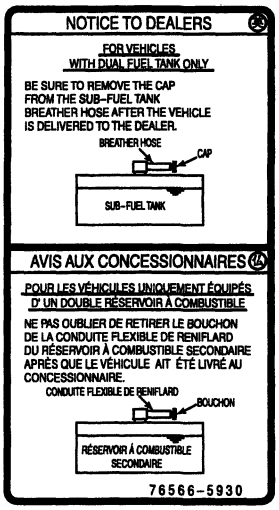
CAUTION LABELS

10. Battery

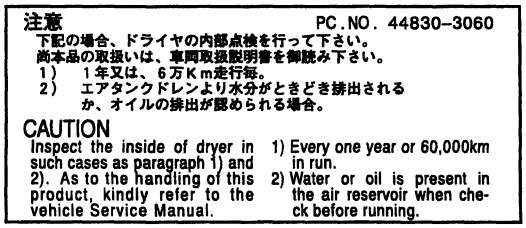


11. Fusible links

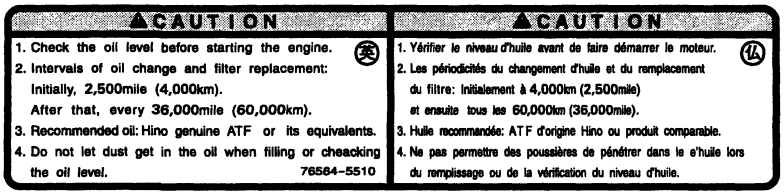
12. Sub fuel tank



13. Air dryer (NABCO only)



14. Power steering fluid reserve tank



CAUTION LABELS

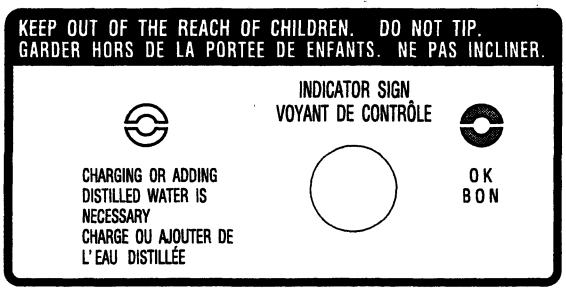
10. Battery

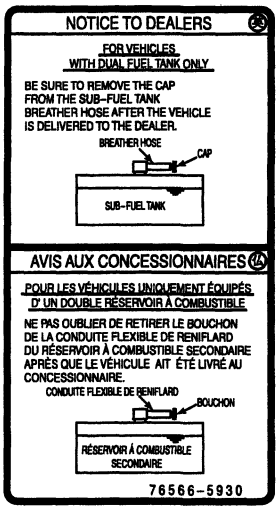
11. Fusible links

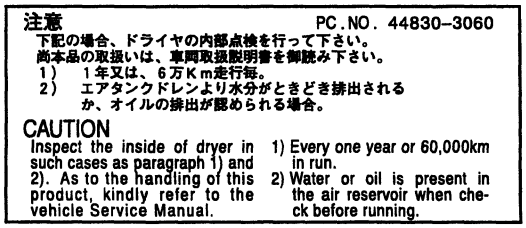
12. Sub fuel tank

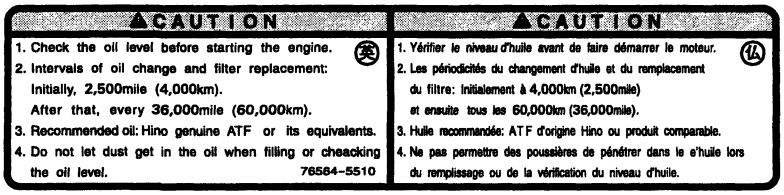
13. Air dryer (NABCO only)

14. Power steering fluid reserve tank









3. Parts

No.	Part name	Remarks	Material
1	Emblem	⊖ Top marks	P
2	Inner grip	Attached beside front pillar	P & S
3	Side turn signal lights		P
4	Clearance lights	Installed on both sides of the cab roof	P
5	Identification lights	Installed at the center front of the cab	P
6	Front turn signal lights	Installed beside the head lights	P
7	Rear combination lights	Installed at the rear end of the frame	P
8	Fuel filter with water separator	Installed at the rear of cab at on the left side of frame	P & S
9	Fender		P
10	Step		S
11	Splash board		P & S
12	Headlight bezel		P
13	Cooling fan	Engine part	P
14	Battery and cover (indicator component)	Indicator for checking fluid level	P
15	Mud guard		R
16	Rubber parts	Includes cooler hose if there is air-conditioned	R
17	Hood		P

3. Parts

No.	Part name	Remarks	Material
1	Emblem	⊖ Top marks	P
2	Inner grip	Attached beside front pillar	P & S
3	Side turn signal lights		P
4	Clearance lights	Installed on both sides of the cab roof	P
5	Identification lights	Installed at the center front of the cab	P
6	Front turn signal lights	Installed beside the head lights	P
7	Rear combination lights	Installed at the rear end of the frame	P
8	Fuel filter with water separator	Installed at the rear of cab at on the left side of frame	P & S
9	Fender		P
10	Step		S
11	Splash board		P & S
12	Headlight bezel		P
13	Cooling fan	Engine part	P
14	Battery and cover (indicator component)	Indicator for checking fluid level	P
15	Mud guard		R
16	Rubber parts	Includes cooler hose if there is air-conditioned	R
17	Hood		P

1-7

3-point type Seat belts

Seat belts with ELR are equipped with at the seats for driver as well as assistant.

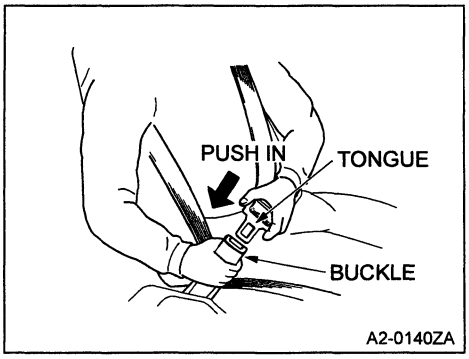
HINT:

ELR (Emergency Locking Retractor):

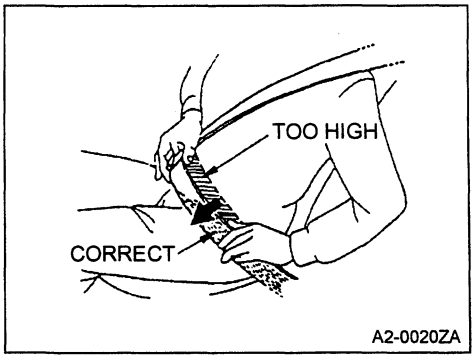
- Under normal conditions, it will expand and contract freely, according to the body movement. However, the driver's and assistant's bodies will automatically be fixed to the seat and protected, in case of a caution.
- Pull out the seat belt slowly when you with to use it. It may get caught half way if you try to pull it out suddenly and quickly. In this case, return the belt back to the original position and pull it out again slowly.

⚠ WARNING

To help reduce the probability and severity of injury in an accident or sudden stop, all occupants should correctly use seat belts at all times while vehicle is moving. Read and follow all seat belt instructions.



- To fasten your belt, pull it out of the retractor and insert the tongue into the buckle.
- You will hear a click when the tongue locks into the buckle.Make sure that the connection is secure and the belt is not twisted. The seat belt length automatically adjusts to your size and the seat position.



- The retractor will lock the belt during a sudden stop or on impact. At other times you can move easily.
- Adjust the position of the lap and shoulder belts.
- Position the lap belt as low as possible on your hips, not on your waist. Failure to do so increases the chance of injury due to sliding under the lap belt during an accident.
- For your safety, do not place the shoulder belt under your arm.

3-point type Seat belts

Seat belts with ELR are equipped with at the seats for driver as well as assistant.

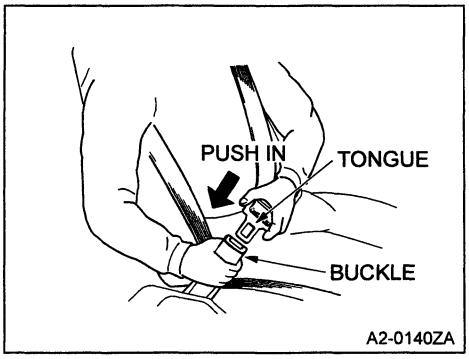
HINT:

ELR (Emergency Locking Retractor):

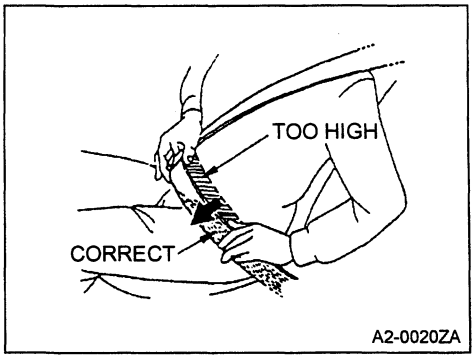
- Under normal conditions, it will expand and contract freely, according to the body movement. However, the driver's and assistant's bodies will automatically be fixed to the seat and protected, in case of a caution.
- Pull out the seat belt slowly when you with to use it. It may get caught half way if you try to pull it out suddenly and quickly. In this case, return the belt back to the original position and pull it out again slowly.

⚠ WARNING

To help reduce the probability and severity of injury in an accident or sudden stop, all occupants should correctly use seat belts at all times while vehicle is moving. Read and follow all seat belt instructions.



- To fasten your belt, pull it out of the retractor and insert the tongue into the buckle.
- You will hear a click when the tongue locks into the buckle.Make sure that the connection is secure and the belt is not twisted. The seat belt length automatically adjusts to your size and the seat position.



- The retractor will lock the belt during a sudden stop or on impact. At other times you can move easily.
- Adjust the position of the lap and shoulder belts.
- Position the lap belt as low as possible on your hips, not on your waist. Failure to do so increases the chance of injury due to sliding under the lap belt during an accident.
- For your safety, do not place the shoulder belt under your arm.

4. Battery charge warning light

The battery charge warning light indicates the state of the battery charging circuit. When the starter key is turned to the "ON" position, the light comes on. It should go off when the engine is at idle speed or above. If it doesn't or it comes on while driving, stop the vehicle and have your vehicle checked and repaired at an authorized Hino dealer.

5. Coolant level warning light

The light comes on when the starter key is turned to the "ON" position. If the coolant level properly, the light turn off after few seconds. After the coolant level warning light comes on confirm the residual volume of coolant in the radiator. Check to see if coolant is leaking from the cooling system.
If it is, do the following:

1. If the reserve tank is empty:
   If the leakage of coolant is found, bring your vehicle to an authorized Hino dealer to have it checked and repaired.
   If there is no leakage of coolant, wait until the engine and radiator have cooled down and replenish the radiator and/or the reserve tank.
2. If there is coolant in the reserve tank:
   Bring your vehicle to an authorized Hino dealer to have it checked and repaired.

CAUTION
If the warning light comes on and/or the beep sounds while driving, pull off the road immediately and stop your vehicle carefully.

6. Oil pressure warning light

The oil pressure warning light indicates that the engine oil pressure is not high enough for safe operation.

CAUTION
If the warning light comes on and/or the beep sounds while driving, pull off the road and stop the engine immediately. Have authorized Hino dealer check and correct it. Otherwise, continued driving can result in serious damage to the engine.

4. Battery charge warning light

The battery charge warning light indicates the state of the battery charging circuit. When the starter key is turned to the "ON" position, the light comes on. It should go off when the engine is at idle speed or above. If it doesn't or it comes on while driving, stop the vehicle and have your vehicle checked and repaired at an authorized Hino dealer.

5. Coolant level warning light

The light comes on when the starter key is turned to the "ON" position. If the coolant level properly, the light turn off after few seconds. After the coolant level warning light comes on confirm the residual volume of coolant in the radiator. Check to see if coolant is leaking from the cooling system.
If it is, do the following:

1. If the reserve tank is empty:
   If the leakage of coolant is found, bring your vehicle to an authorized Hino dealer to have it checked and repaired.
   If there is no leakage of coolant, wait until the engine and radiator have cooled down and replenish the radiator and/or the reserve tank.
2. If there is coolant in the reserve tank:
   Bring your vehicle to an authorized Hino dealer to have it checked and repaired.

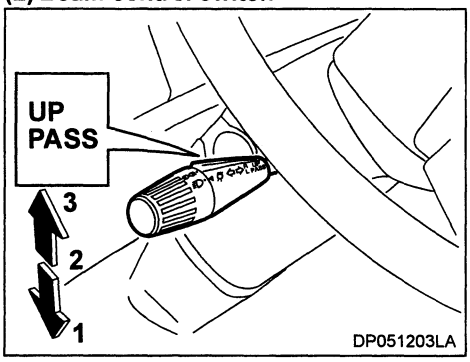
CAUTION
If the warning light comes on and/or the beep sounds while driving, pull off the road immediately and stop your vehicle carefully.

6. Oil pressure warning light

The oil pressure warning light indicates that the engine oil pressure is not high enough for safe operation.

CAUTION
If the warning light comes on and/or the beep sounds while driving, pull off the road and stop the engine immediately. Have authorized Hino dealer check and correct it. Otherwise, continued driving can result in serious damage to the engine.

(2) Beam control switch



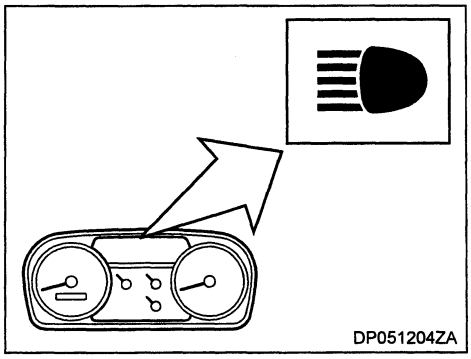
The beam control switch operates in the following manner:

High beam - Push down (Position 1)

The head lights come on at high beam. The high beam indicator light comes on while the high beam is used.

Low beam (Position 2)

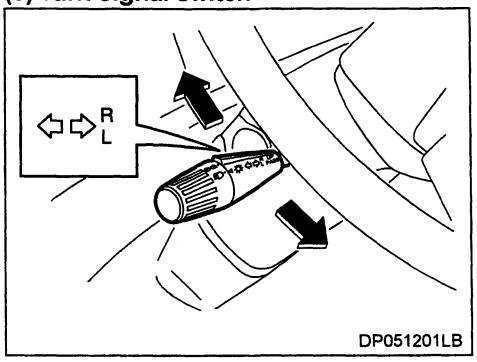
Pull the lever toward you for low beam. The high beam indicator light turns off.

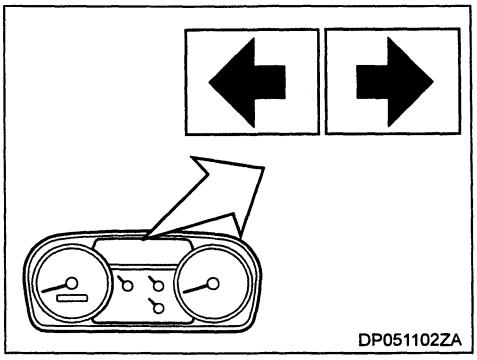


Passing - Pull up (Position 3)

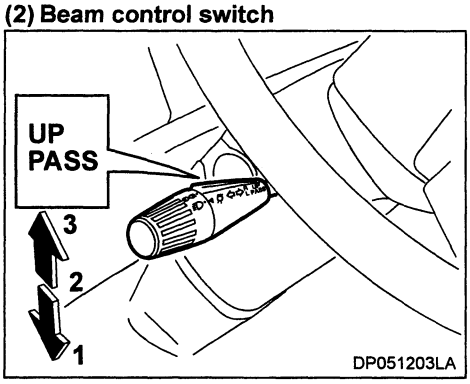
The high beam headlight will stay lit as long as the lever is held up. The passing position can be used even when the beam control switch is in the "OFF" position.

(3) Turn signal switch





(2) Beam control switch



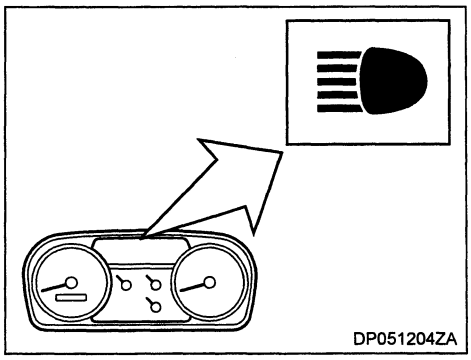
The beam control switch operates in the following manner:

High beam - Push down (Position 1)

The head lights come on at high beam. The high beam indicator light comes on while the high beam is used.

Low beam (Position 2)

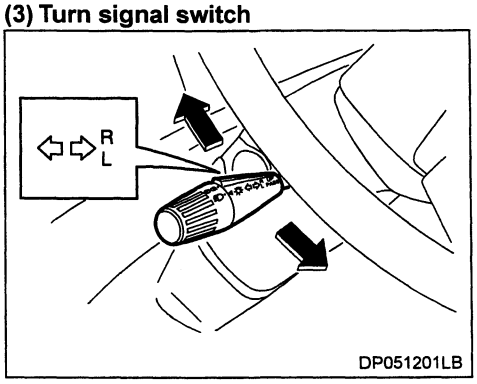
Pull the lever toward you for low beam. The high beam indicator light turns off.

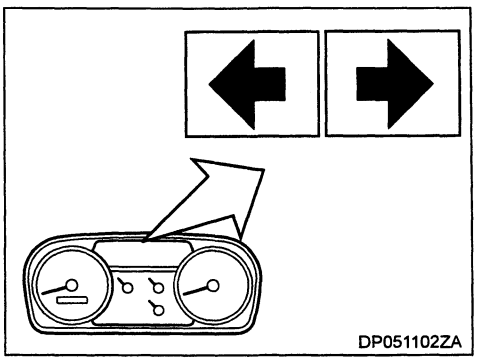


Passing - Pull up (Position 3)

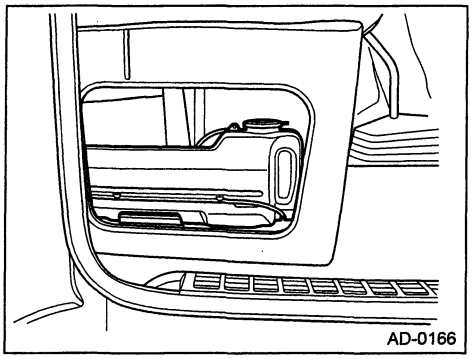
The high beam headlight will stay lit as long as the lever is held up. The passing position can be used even when the beam control switch is in the "OFF" position.

(3) Turn signal switch





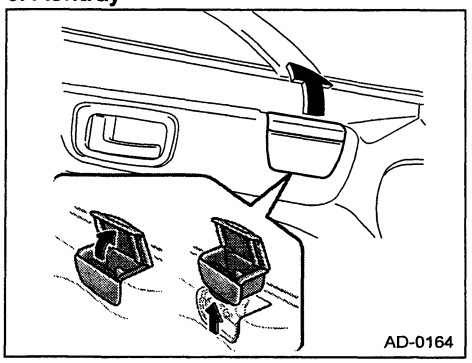
5. Windshield washer tank



Open the passenger door. The windshield washer tank is located on the side of the seat. To add washer solution, refer to page 7-60.

CAUTION
When getting into and getting out of the cab, do not apply force on the washer tank by putting your hands or legs on the tank.

6. Ashtray



When finished with your cigarette, thoroughly extinguish it in the ashtray to prevent other cigarette butts from catching fire. After using the ashtray, close the cover in completely. To remove the ashtray, pull it upward as shown in the illustration.

⚠ CAUTION
To reduce the chance of injury in case of an accident or sudden stop while driving, always push the ashtray back in completely after using.

LEVER AND PEDAL CONTROL

Manual transmission

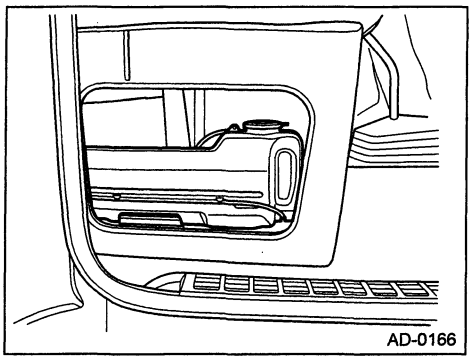
The transmission has six-forward or five-forward speeds and one reverse. Use 1st gear to start from a standstill. The shift pattern is shown in the shift knob. When shifting between "5th and 6th" or "4th and 5th" gears, the shift lever should be held to the right to prevent mis-shifting. Mis-shifting can cause the engine to run at too high an RPM (r/min.). Shift the lever after having fully depressed the clutch pedal.

Apply synchromesh gears

Transmission	Synchromesh
6 speeds FS5406A, FS6406A	1st to 6th
5 speeds FS4025A	2nd to 5th

Before driving your vehicle, study the shift pattern and shifting procedure thoroughly. When the lever is shifted into reverse "R" position, the backup lights come on automatically.

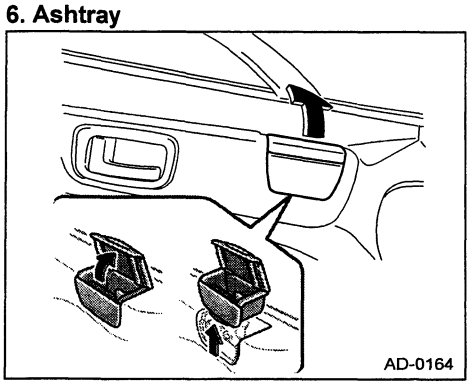
5. Windshield washer tank



Open the passenger door. The windshield washer tank is located on the side of the seat. To add washer solution, refer to page 7-60.

CAUTION
When getting into and getting out of the cab, do not apply force on the washer tank by putting your hands or legs on the tank.

6. Ashtray



When finished with your cigarette, thoroughly extinguish it in the ashtray to prevent other cigarette butts from catching fire. After using the ashtray, close the cover in completely. To remove the ashtray, pull it upward as shown in the illustration.

⚠ CAUTION
To reduce the chance of injury in case of an accident or sudden stop while driving, always push the ashtray back in completely after using.

LEVER AND PEDAL CONTROL

Manual transmission

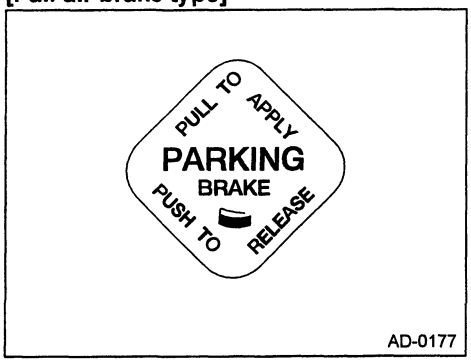
The transmission has six-forward or five-forward speeds and one reverse. Use 1st gear to start from a standstill. The shift pattern is shown in the shift knob. When shifting between "5th and 6th" or "4th and 5th" gears, the shift lever should be held to the right to prevent mis-shifting. Mis-shifting can cause the engine to run at too high an RPM (r/min.). Shift the lever after having fully depressed the clutch pedal.

Apply synchromesh gears

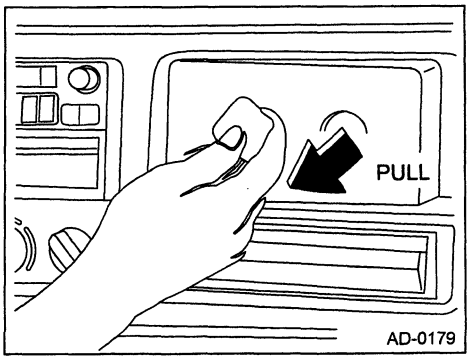
Transmission	Synchromesh
6 speeds FS5406A, FS6406A	1st to 6th
5 speeds FS4025A	2nd to 5th

Before driving your vehicle, study the shift pattern and shifting procedure thoroughly. When the lever is shifted into reverse "R" position, the backup lights come on automatically.

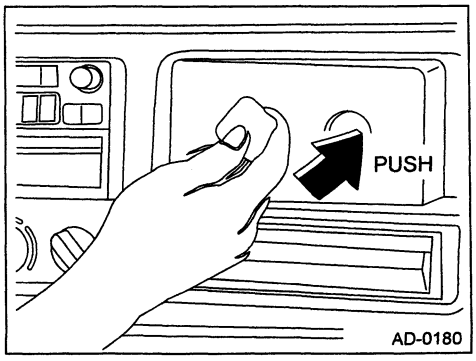
Parking brake control knob
[Full air brake type]



A powerful coil spring mechanically applies the rear axle brake shoes whenever air pressure against the spring is released.



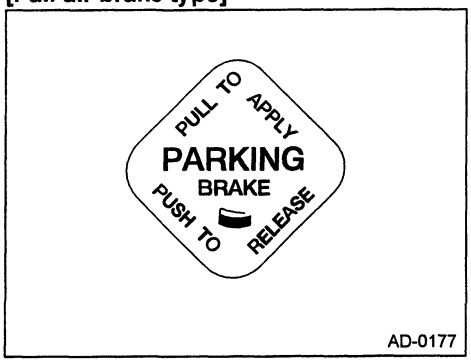
To apply the parking brake, pull the parking brake control knob out. This exhausts the air from the spring brakes. Use the parking brake control knob for parking purposes only. If the supply pressure to this valve is reduced to 35 - 45 lb/in^2 (2.4 - 3.2 kg/cm^2), the parking brake control knob pops out automatically, applying the parking brakes.



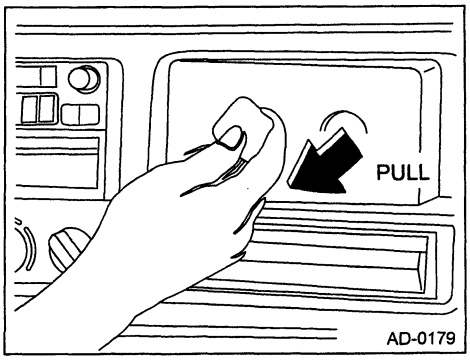
⚠ WARNING

Use of the parking brake knob with the vehicle in motion will cause full unmodulated brake application, which could cause personal injury due to wheel lock up.

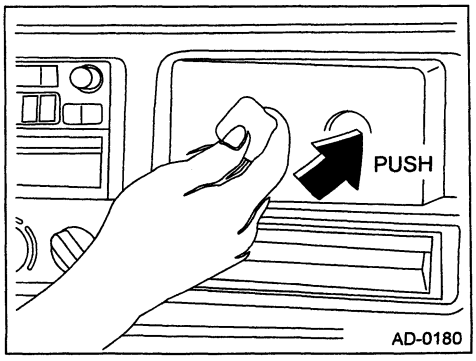
Parking brake control knob
[Full air brake type]



A powerful coil spring mechanically applies the rear axle brake shoes whenever air pressure against the spring is released.



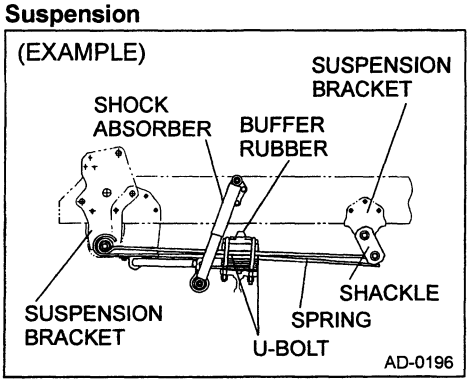
To apply the parking brake, pull the parking brake control knob out. This exhausts the air from the spring brakes. Use the parking brake control knob for parking purposes only. If the supply pressure to this valve is reduced to 35 - 45 lb/in^2 (2.4 - 3.2 kg/cm^2), the parking brake control knob pops out automatically, applying the parking brakes.



⚠ WARNING

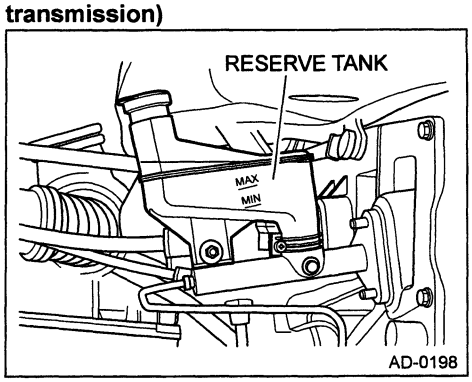
Use of the parking brake knob with the vehicle in motion will cause full unmodulated brake application, which could cause personal injury due to wheel lock up.

Suspension



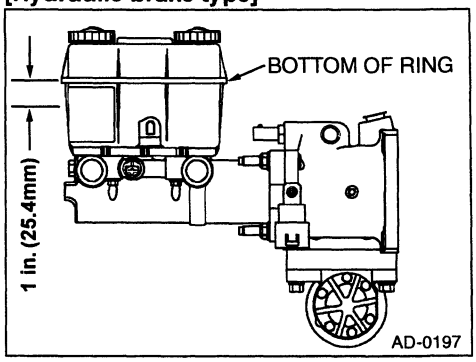
Check front and rear springs for damage. Be sure that U-bolts are not loose. Check for cracks in the suspension brackets and loose fasteners in the spring hangers and shackles. Check the shock absorber for loose fasteners and leaks.

Clutch fluid (Not applicable for automatic transmission)



Check the clutch fluid level. Check that the fluid reserve tank cap is securely tightened. The clutch fluid reserve tank is installed in the engine compartment. Check it after you open the hood.

Brake fluid reserve tank [Hydraulic brake type]



The brake fluid reserve tank is installed on the left side of the engine room.

Suspension

(EXAMPLE)
SUSPENSION BRACKET
SHOCK ABSORBER
BUFFER RUBBER
SHACKLE
SUSPENSION BRACKET
SPRING
U-BOLT
AD-0196

Check front and rear springs for damage. Be sure that U-bolts are not loose. Check for cracks in the suspension brackets and loose fasteners in the spring hangers and shackles. Check the shock absorber for loose fasteners and leaks.

Clutch fluid (Not applicable for automatic transmission)

RESERVE TANK
MAX
MIN
AD-0198

Check the clutch fluid level. Check that the fluid reserve tank cap is securely tightened. The clutch fluid reserve tank is installed in the engine compartment. Check it after you open the hood.

Brake fluid reserve tank [Hydraulic brake type]

BOTTOM OF RING
1 in. (25.4mm)
AD-0197

The brake fluid reserve tank is installed on the left side of the engine room.

Push the parking brake control knob in.
(Be sure that the parking brake indicator light ((P) or (P)) is off.)

Check behind your vehicle for obstructions.

> **⚠ WARNING**
>
> **Do not drive in reverse without first carefully checking behind your vehicle for any persons or obstructions.**

Right after driving the vehicle

Service brake

Test the brake at a speed of 3 mph (5 km/h) to 6 mph (10 km/h) in a safe area and make sure that the brakes are effective and do not pull to one side.

Steering wheel

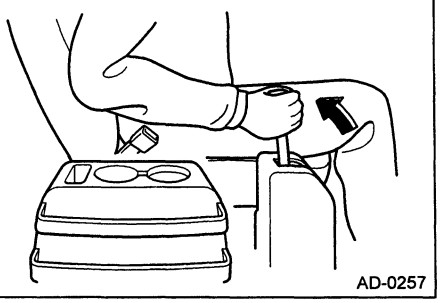
Check the steering wheel for difficulty in handling, pulling to one side, etc.

Other

Make sure that all the instruments are in good order.

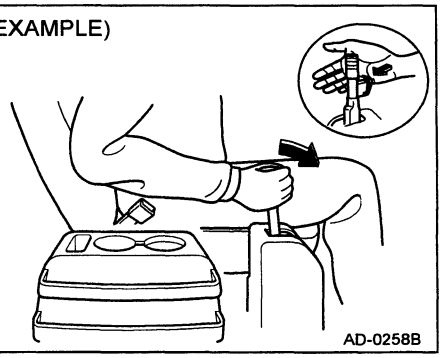
Warning to park
[Hydraulic brake type]

(EXAMPLE)



AD-0257

(EXAMPLE)



AD-0258B

Push the parking brake control knob in.
(Be sure that the parking brake indicator light ((P) or (P)) is off.)

Check behind your vehicle for obstructions.

> **⚠ WARNING**
>
> **Do not drive in reverse without first carefully checking behind your vehicle for any persons or obstructions.**

Right after driving the vehicle

Service brake

Test the brake at a speed of 3 mph (5 km/h) to 6 mph (10 km/h) in a safe area and make sure that the brakes are effective and do not pull to one side.

Steering wheel

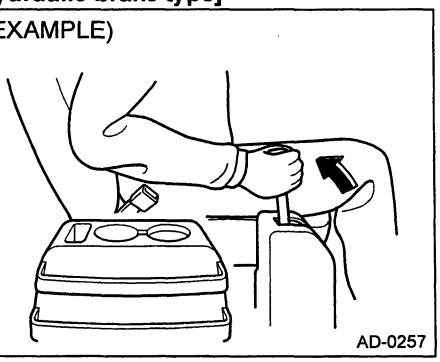
Check the steering wheel for difficulty in handling, pulling to one side, etc.

Other

Make sure that all the instruments are in good order.

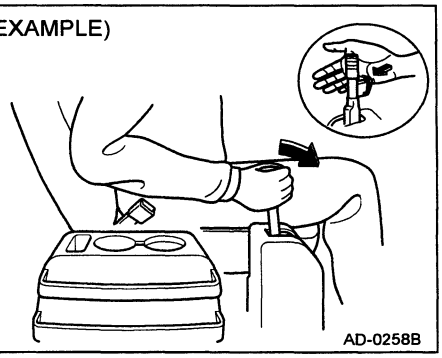
Warning to park
[Hydraulic brake type]

(EXAMPLE)



AD-0257

(EXAMPLE)



AD-0258B

Steering

Before turning, reduce the vehicle's speed. Turning with the brakes applied should be avoided since it may cause accelerated wear on tires and loss of vehicle control on a wet or slippery road.

Engine overrunning

Be careful not to overrun the engine when downshifting. When downshifting on a downhill grade, apply wheel brakes and keep the vehicle speed within the maximum operating speed for each gear.

⚠ CAUTION

Warning for overrunning:
Overrunning of the engine is indicated by the pointer in the red zone of the tachometer. If this happens, reduce engine speed immediately.

⚠ WARNING

To reduce the link of personal injury and/or vehicle damage, engine overrunning should be avoided.

Driving through a flooded area

NOTICE:
Never drive the vehicle through a flooded area. If the water is deep enough to reach the bottom of the oil pan, this will cause failure of the cooling fan, slippage of the drive belts, or failure of the engine due to water sucked into the air.

Windshield wiper and washer switch

NOTICE:
Remove ice or snow from the windshield and wiper blades before using the wipers. When the wipers are frozen to the windshield or lower windshield molding, thaw or loosen the wipers carefully so as not to damage the blades. Do not operate the wipers if the blades are frozen to the windshield glass since this could damage the wiper motor and wiper arms and blades.
In cold weather warm the windshield glass with the defroster before using the washer. This will help prevent icing which could obstruct your vision. Use washer fluid to prevent fluid from freezing and to help clean the windshield glass. However, do not use the type of washer fluid that damages paint or rubber. Follow the manufacturer's instructions for the proper concentration of washer fluid solution.

Steering

Before turning, reduce the vehicle's speed. Turning with the brakes applied should be avoided since it may cause accelerated wear on tires and loss of vehicle control on a wet or slippery road.

Engine overrunning

Be careful not to overrun the engine when downshifting. When downshifting on a downhill grade, apply wheel brakes and keep the vehicle speed within the maximum operating speed for each gear.

⚠ CAUTION

Warning for overrunning:
Overrunning of the engine is indicated by the pointer in the red zone of the tachometer. If this happens, reduce engine speed immediately.

⚠ WARNING

To reduce the link of personal injury and/or vehicle damage, engine overrunning should be avoided.

Driving through a flooded area

NOTICE:
Never drive the vehicle through a flooded area. If the water is deep enough to reach the bottom of the oil pan, this will cause failure of the cooling fan, slippage of the drive belts, or failure of the engine due to water sucked into the air.

Windshield wiper and washer switch

NOTICE:
Remove ice or snow from the windshield and wiper blades before using the wipers. When the wipers are frozen to the windshield or lower windshield molding, thaw or loosen the wipers carefully so as not to damage the blades. Do not operate the wipers if the blades are frozen to the windshield glass since this could damage the wiper motor and wiper arms and blades.
In cold weather warm the windshield glass with the defroster before using the washer. This will help prevent icing which could obstruct your vision. Use washer fluid to prevent fluid from freezing and to help clean the windshield glass. However, do not use the type of washer fluid that damages paint or rubber. Follow the manufacturer's instructions for the proper concentration of washer fluid solution.

MODE(AUDIO CONTROL)

Manual tone adjustment function—

This knob is used to adjust the tone manually. For low-pitch tone adjustment, push "MODE" repeatedly until "BAS" appears on the display. Then turn the knob to suit your preference. The display will show the range from "B: -5" to "B: 5". For high-pitch tone adjustment, push "MODE" repeatedly until "TRE" appears on the display. Then turn the knob to suit your preference. The display will show the range from "TR: -5" to "TR: 5".

Sound balance adjustment function—

This knob is also used to adjust the sound balance between the right and left speakers.

For left/right adjustment, push "MODE" repeatedly until "BAL" appears on the display. Then turn the knob to adjust the left/ right balance. The display will show the range from "L:7" to "R:7".

PWR.VOL (Power / Volume)

Push "PWR.VOL" to turn the audio system on and off. Turn "PWR.VOL" to adjust the volume. Turn "PWR.VOL" while pulling it to adjust the left or right balance.

FM·AM

If the audio system is off, you can turn on the radio by pushing "FM·AM". Also, push "FM·AM" to switch from cassette operation to radio operation.

ST (Stereo reception) display

Your radio automatically changes to stereo reception when a stereo broadcast is received. "ST" appears on the display. If the signal becomes weak, the radio reduces the amount of channel separation to prevent the weak signal from creating noise. If the signal becomes extremely weak, the radio switches from stereo to mono reception.

SCAN (⩓) Radio

Quickly push and release "(⩓)" Scan button. The radio will tune in the next preset station up the band, stay there for a few seconds, and then move to the next preset station. To select a station, push "(⩓)" a second time. To scan all the frequencies: Quickly push and release "(⩓)". The radio will find the next station up the station band, stay there for a few seconds, and then scan again. To select a station, push "(⩓)" a second time.

Seeking"∧"(up) or "∨"(down)

In the seek mode, the radio finds and plays the next station up or down the station band. To seek a station, push and hold the "∧" or "∨" side until you hear a beep. Do this again to find another station.

Tuning "∧" (up) or "∨"(down)

Push and release the "∧" (up) or "∨" (down) side to step up or down the station band. (If you hear a beep, you held the button too long and the radio will go into the seek mode.)

MODE(AUDIO CONTROL)

Manual tone adjustment function—

This knob is used to adjust the tone manually. For low-pitch tone adjustment, push "MODE" repeatedly until "BAS" appears on the display. Then turn the knob to suit your preference. The display will show the range from "B: -5" to "B: 5". For high-pitch tone adjustment, push "MODE" repeatedly until "TRE" appears on the display. Then turn the knob to suit your preference. The display will show the range from "TR: -5" to "TR: 5".

Sound balance adjustment function—

This knob is also used to adjust the sound balance between the right and left speakers.

For left/right adjustment, push "MODE" repeatedly until "BAL" appears on the display. Then turn the knob to adjust the left/ right balance. The display will show the range from "L:7" to "R:7".

PWR.VOL (Power / Volume)

Push "PWR.VOL" to turn the audio system on and off. Turn "PWR.VOL" to adjust the volume. Turn "PWR.VOL" while pulling it to adjust the left or right balance.

FM·AM

If the audio system is off, you can turn on the radio by pushing "FM·AM". Also, push "FM·AM" to switch from cassette operation to radio operation.

ST (Stereo reception) display

Your radio automatically changes to stereo reception when a stereo broadcast is received. "ST" appears on the display. If the signal becomes weak, the radio reduces the amount of channel separation to prevent the weak signal from creating noise. If the signal becomes extremely weak, the radio switches from stereo to mono reception.

SCAN (⩓) Radio

Quickly push and release "(⩓)" Scan button. The radio will tune in the next preset station up the band, stay there for a few seconds, and then move to the next preset station. To select a station, push "(⩓)" a second time. To scan all the frequencies: Quickly push and release "(⩓)". The radio will find the next station up the station band, stay there for a few seconds, and then scan again. To select a station, push "(⩓)" a second time.

Seeking"∧"(up) or "∨"(down)

In the seek mode, the radio finds and plays the next station up or down the station band. To seek a station, push and hold the "∧" or "∨" side until you hear a beep. Do this again to find another station.

Tuning "∧" (up) or "∨"(down)

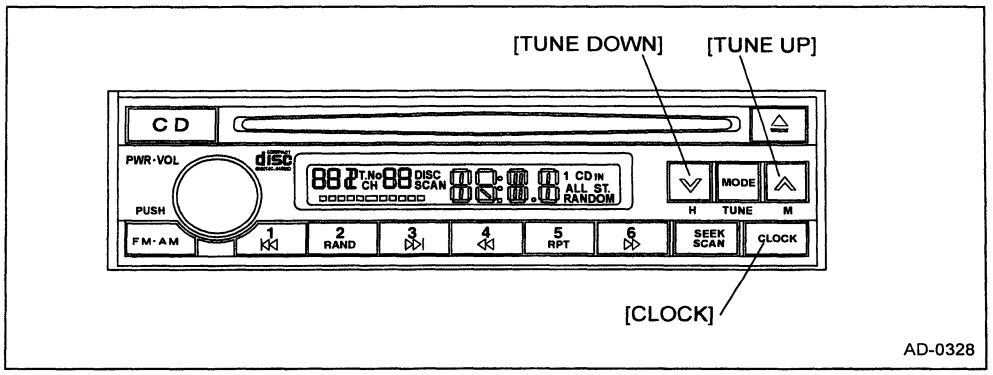
Push and release the "∧" (up) or "∨" (down) side to step up or down the station band. (If you hear a beep, you held the button too long and the radio will go into the seek mode.)

2. Setting by broadcast Time Signal

When a radio station issues an hourly time signal ("chime"), hold the [DISP] button depressed and press the [SET] button; depending on the current display time, the clock display will be reset as follows:

(1)If the time display shows between 30 and 59 minutes, the hours digits will increment by one and the minutes digits will be reset to 00. (See "Display Example A" in the illustration above.)

(2)If the time display shows between 00 and 29 minutes, the minutes digits will be reset to 00. (See "Display Example B" in the illustration above.)



FM·AM radio/compact disc player

Clock display

Switch the display to the clock only, or by another operation only by every pressing button [CLOCK].

Setting the clock

1. Set the hour

   While pressing button [CLOCK], press button "∧" (up) to advance the hour by one hour. After the adjustment, the clock will start from 0 second when button [CLOCK] is released.

2. Set the minute

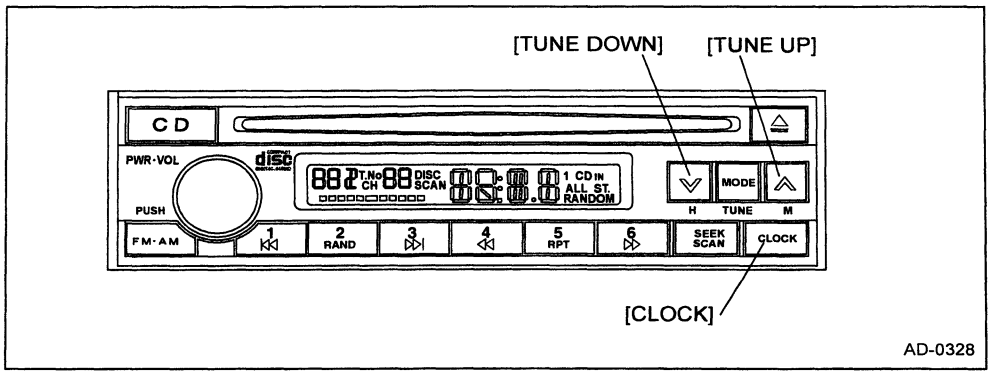
   While pressing button [CLOCK], press button "∨" (down) to advance the hour by one minute. After the adjustment, the clock will start from 0 second when button [CLOCK] is released.

2. Setting by broadcast Time Signal

When a radio station issues an hourly time signal ("chime"), hold the [DISP] button depressed and press the [SET] button; depending on the current display time, the clock display will be reset as follows:

(1)If the time display shows between 30 and 59 minutes, the hours digits will increment by one and the minutes digits will be reset to 00. (See "Display Example A" in the illustration above.)

(2)If the time display shows between 00 and 29 minutes, the minutes digits will be reset to 00. (See "Display Example B" in the illustration above.)



FM·AM radio/compact disc player

Clock display

Switch the display to the clock only, or by another operation only by every pressing button [CLOCK].

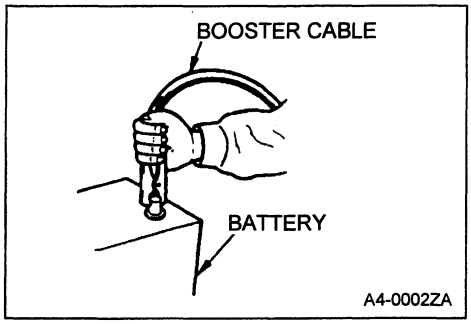
Setting the clock

1. Set the hour

   While pressing button [CLOCK], press button "∧" (up) to advance the hour by one hour. After the adjustment, the clock will start from 0 second when button [CLOCK] is released.

2. Set the minute

   While pressing button [CLOCK], press button "∨" (down) to advance the hour by one minute. After the adjustment, the clock will start from 0 second when button [CLOCK] is released.



3. Next, connect one end of the black booster cable firmly to the negative (–) terminal of the booster battery [C]. Finally, connect the other end to an engine ground well away from the discharged batteries [D].
4. After completion of the connection, start the engine of the vehicle with the discharged batteries. If the engine is difficult to start in cold weather, first run the engine of the other vehicle for a while to fully charge its batteries. Then stop the engine of the other vehicle and start the engine of the vehicle with the discharged batteries.
5. After the engine has started, carefully remove the booster cables in reverse order while the engine is idling.

⚠ WARNING

The engine should never be started by pushing or towing the vehicle. Since with the engine stopped, the effectiveness of the service brake system is seriously reduced and steering requires greater effort because the power steering does not work until the engine is running.

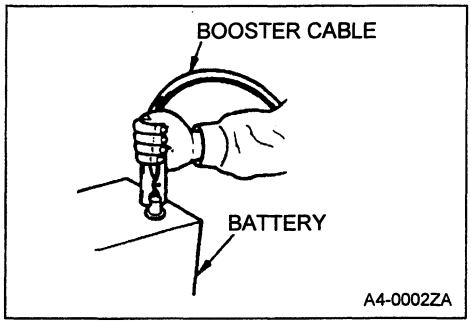
DAMAGED TIRE

⚠ WARNING

Avoid full or panic braking if you have a flat tire while driving, since this may cause loss of vehicle control.
Cautiously stop your vehicle off the road paying attention to other traffic. Hold the steering wheel firmly and park the vehicle in a level and safe place. Apply the parking brake firmly, turn on the hazard warning light switch and stop the engine.

An inflated tire contains air under high pressure. An inflated tire and wheel can be dangerous if misused, and can result in personal injury and/or property damage. The maintenance of a damaged tire and wheel requires the use of proper tools, safe equipment, and tire service experts. If you have a flat tire or other tire damage, have tire service experts do the repair.

If you have to make repairs on tires or wheels without such help, observe the following precautions to help prevent personal injury and/or property damage.



3. Next, connect one end of the black booster cable firmly to the negative (–) terminal of the booster battery [C]. Finally, connect the other end to an engine ground well away from the discharged batteries [D].
4. After completion of the connection, start the engine of the vehicle with the discharged batteries. If the engine is difficult to start in cold weather, first run the engine of the other vehicle for a while to fully charge its batteries. Then stop the engine of the other vehicle and start the engine of the vehicle with the discharged batteries.
5. After the engine has started, carefully remove the booster cables in reverse order while the engine is idling.

⚠ WARNING

The engine should never be started by pushing or towing the vehicle. Since with the engine stopped, the effectiveness of the service brake system is seriously reduced and steering requires greater effort because the power steering does not work until the engine is running.

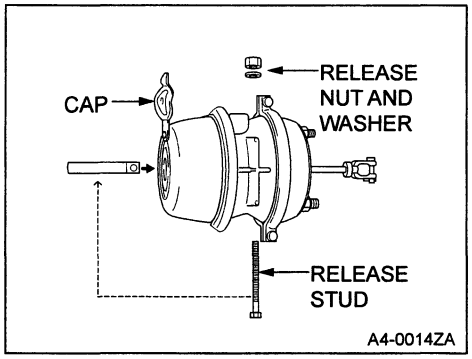
DAMAGED TIRE

⚠ WARNING

Avoid full or panic braking if you have a flat tire while driving, since this may cause loss of vehicle control.
Cautiously stop your vehicle off the road paying attention to other traffic. Hold the steering wheel firmly and park the vehicle in a level and safe place. Apply the parking brake firmly, turn on the hazard warning light switch and stop the engine.

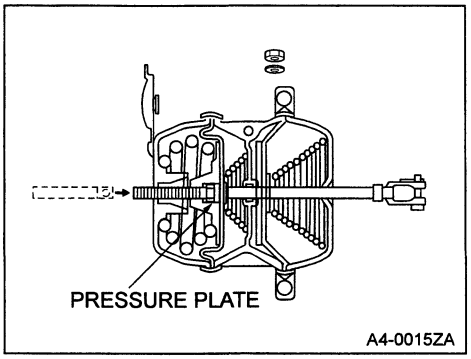
An inflated tire contains air under high pressure. An inflated tire and wheel can be dangerous if misused, and can result in personal injury and/or property damage. The maintenance of a damaged tire and wheel requires the use of proper tools, safe equipment, and tire service experts. If you have a flat tire or other tire damage, have tire service experts do the repair.

If you have to make repairs on tires or wheels without such help, observe the following precautions to help prevent personal injury and/or property damage.

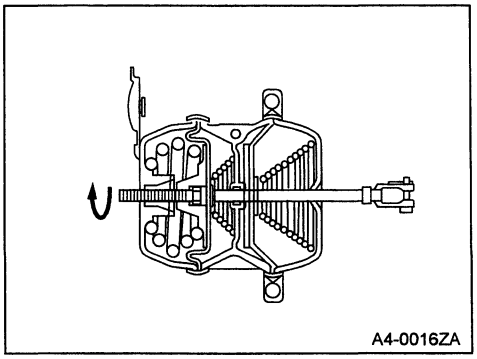


⚠ CAUTION

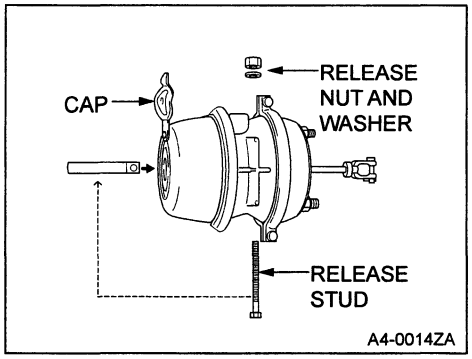
Always block the wheels before manually releasing the parking brake.



Insert the release stud through the opening (where cap was removed) in the spring chamber and insert it until it bottoms out.

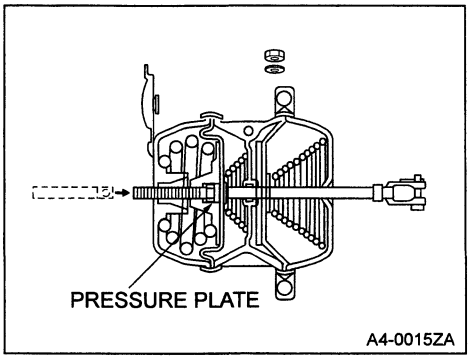


Turn the release stud **1/4 turn** clockwise and pull the stud out to lock the formed end into the piston.

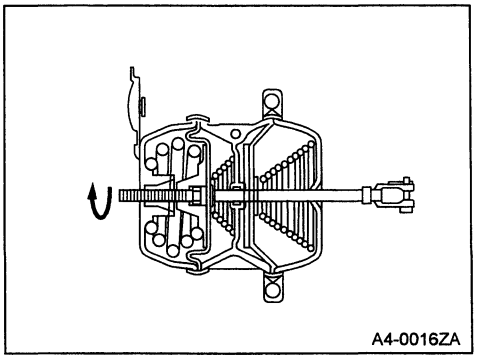


⚠ CAUTION

Always block the wheels before manually releasing the parking brake.



Insert the release stud through the opening (where cap was removed) in the spring chamber and insert it until it bottoms out.



Turn the release stud **1/4 turn** clockwise and pull the stud out to lock the formed end into the piston.

SCOPE OF REGULAR MAINTENANCE

- **Be careful not to leave any tool in the engine compartment. The tool may be hit by moving parts and can cause personal injury.**
- **Be careful not to damage lines and hoses by stepping or standing on them.**
- **Be careful you don't slip when you stand on the front bumper.**

Maintenance requirements

1. Regular maintenance is very important to keep the vehicle trouble-free, and operating economically and with safety.
2. Regular maintenance is composed of **Daily inspection** which should be performed both before and after daily operation of the vehicle and **Scheduled Maintenance** which is carried out at the indicated intervals, mileage or period.
3. **Please note that the New Vehicle Warranty, Noise Emission Control System, and Exhaust Emission Control System require that proper maintenance be performed according to schedule.**

Maintenance schedule

1. Refer to TABLE 1, "RECOMMENDED MAINTENANCE SERVICE" for maintenance items which require scheduled maintenance.
2. Maintenance involving relatively simple and easy maintenance procedures is mentioned in this section.
   As to other items than the above, refer to the **Workshop Manual**.
3. Maintenance intervals in the following table are shown in the odometer readings and/or time intervals.
   As these maintenance intervals are set for normal driving conditions, **if the vehicle is used under more severe driving conditions, maintenance service must be performed more frequently**.

SCOPE OF REGULAR MAINTENANCE

- **Be careful not to leave any tool in the engine compartment. The tool may be hit by moving parts and can cause personal injury.**
- **Be careful not to damage lines and hoses by stepping or standing on them.**
- **Be careful you don't slip when you stand on the front bumper.**

Maintenance requirements

1. Regular maintenance is very important to keep the vehicle trouble-free, and operating economically and with safety.
2. Regular maintenance is composed of **Daily inspection** which should be performed both before and after daily operation of the vehicle and **Scheduled Maintenance** which is carried out at the indicated intervals, mileage or period.
3. **Please note that the New Vehicle Warranty, Noise Emission Control System, and Exhaust Emission Control System require that proper maintenance be performed according to schedule.**

Maintenance schedule

1. Refer to TABLE 1, "RECOMMENDED MAINTENANCE SERVICE" for maintenance items which require scheduled maintenance.
2. Maintenance involving relatively simple and easy maintenance procedures is mentioned in this section.
   As to other items than the above, refer to the **Workshop Manual**.
3. Maintenance intervals in the following table are shown in the odometer readings and/or time intervals.
   As these maintenance intervals are set for normal driving conditions, **if the vehicle is used under more severe driving conditions, maintenance service must be performed more frequently**.

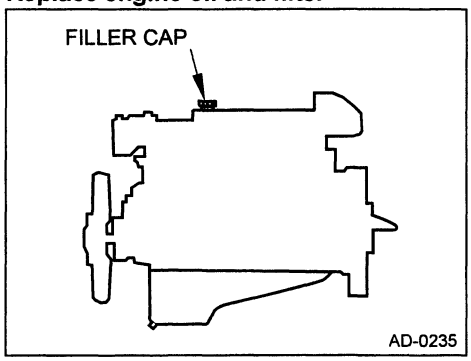
Maintenance operations: **A** = Check and adjust if necessary; **I** = Inspect, clean and correct or replace as necessary; **L** = Lubricate; **R** = Replace or change; **T** = Tighten to specified torque

SERVICE INTERVALS: (Odometer reading or months, whichever comes first.)	Odometer ranging	First	Every												Months (every)
	Miles (x 1,000)	1	6	9	10	12	15	18	20	24	30	36	50	72	
	Kilometers (x 1,000)	1.6	10	15	16	20	25	30	32	40	50	60	80	120	
MAINTENANCE ITEMS															
ELECTRICAL EQUIPMENT															
Battery terminal								I							6
Battery charging						A									4
Starter bearing grease												I			12
Starter brush														I	24
Wiring, connectors and clips tightness and damage												A			12
Engine cylinder block heater harness terminal														I	24
CAB															
Rear cab mounting support bolts								A							6
Rear cab mounting brackets, cushion rubber mounting bolt and nut								A							6
AIR FLOW, HEATING AND AIR CONDITIONER															
Refrigerant amount of air conditioner												I			12
Air filter		I: Every 3,000miles(5,000km)													1
NOISE CONTROL MAINTENANCE SCHEDULE															
High idling speed												A			12
Cooling fan												A			12
Air intake system hose and clamps						A									4
Air cleaner element												R			12
Exhaust manifolds mounting nuts												T			12
Muffler with catalyst and exhaust pipe clamps								A							6
Splash shields, under hood insulator												A			12

Maintenance operations: **A** = Check and adjust if necessary; **I** = Inspect, clean and correct or replace as necessary; **L** = Lubricate; **R** = Replace or change; **T** = Tighten to specified torque

SERVICE INTERVALS: (Odometer reading or months, whichever comes first.)	Odometer ranging	First	Every												Months (every)
	Miles (x 1,000)	1	6	9	10	12	15	18	20	24	30	36	50	72	
	Kilometers (x 1,000)	1.6	10	15	16	20	25	30	32	40	50	60	80	120	
MAINTENANCE ITEMS															
ELECTRICAL EQUIPMENT															
Battery terminal								I							6
Battery charging						A									4
Starter bearing grease												I			12
Starter brush														I	24
Wiring, connectors and clips tightness and damage												A			12
Engine cylinder block heater harness terminal														I	24
CAB															
Rear cab mounting support bolts								A							6
Rear cab mounting brackets, cushion rubber mounting bolt and nut								A							6
AIR FLOW, HEATING AND AIR CONDITIONER															
Refrigerant amount of air conditioner												I			12
Air filter		I: Every 3,000miles(5,000km)													1
NOISE CONTROL MAINTENANCE SCHEDULE															
High idling speed												A			12
Cooling fan												A			12
Air intake system hose and clamps						A									4
Air cleaner element												R			12
Exhaust manifolds mounting nuts												T			12
Muffler with catalyst and exhaust pipe clamps								A							6
Splash shields, under hood insulator												A			12

Replace engine oil and filter

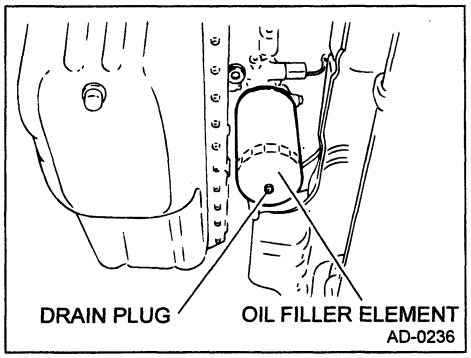


⚠ CAUTION

Doing replacement work while the engine is still hot can result in personal injury.

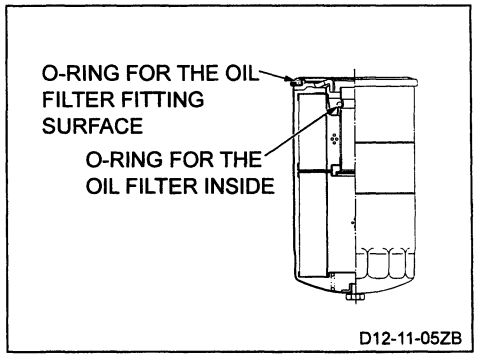
Replace engine oil and oil filter in the following manner:

a. Park the vehicle on level ground.



b. Remove the filler cap. Remove the drain plug of the oil pan and drain the engine oil. The used engine oil should be drained into an appropriate container. Remove any dirt or debris from around the oil filter.

c. Place a container for waste oil under the oil filter and then drain the oil by loosening the drain plug located at the lower part of the oil filter. Be sure to receive the oil in the container for the sake of safety and in order not to make the ground dirty



⚠ CAUTION

Just after driving, the engine oil is still hot and can burn you. Before changing or checking the oil, let it cool down until you can touch the oil without getting burned.

Remove the oil filter element by turning it to the left using an oil filter wrench of a specified special tool.

Part number of wrench
J08E: 09503-1110
J05D: 09503-1090

Replace engine oil and filter

FILLER CAP
AD-0235

⚠ CAUTION

Doing replacement work while the engine is still hot can result in personal injury.

Replace engine oil and oil filter in the following manner:

a. Park the vehicle on level ground.

DRAIN PLUG
OIL FILLER ELEMENT
AD-0236

b. Remove the filler cap. Remove the drain plug of the oil pan and drain the engine oil. The used engine oil should be drained into an appropriate container. Remove any dirt or debris from around the oil filter.

c. Place a container for waste oil under the oil filter and then drain the oil by loosening the drain plug located at the lower part of the oil filter. Be sure to receive the oil in the container for the sake of safety and in order not to make the ground dirty

O-RING FOR THE OIL FILTER FITTING SURFACE
O-RING FOR THE OIL FILTER INSIDE
D12-11-05ZB

⚠ CAUTION

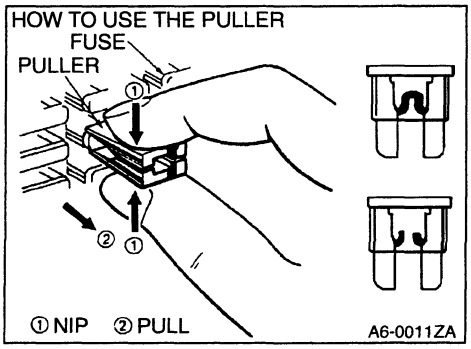
Just after driving, the engine oil is still hot and can burn you. Before changing or checking the oil, let it cool down until you can touch the oil without getting burned.

Remove the oil filter element by turning it to the left using an oil filter wrench of a specified special tool.

Part number of wrench
J08E: 09503-1110
J05D: 09503-1090

7-25

22. 5A Parking
23. 15A Spare power
24. 10A Van light switch
25. 5A Spare fuse
26. 10A Spare fuse
27. 15A Spare fuse
28. 20A Spare fuse
29. 15A Air dryer
30. 10A Backup light
31. 15A Mirror
32. 30A Spare fuse



NOTICE:
Never use fuses with a capacity other than that specified.

Additional wiring

- As additional wiring from fuses or circuit breakers causes overheating, it must be avoided.
- For the additional installation of a radio or a spotlight, the terminals for its additional wiring are provided in the cab and on the chassis frame. Wiring should be done at an authorized Hino dealer.
- Loads which can be added are as follows:

Always the power source to the cab.: Max. 10.5A
Tail linkage power source to the chassis frame: Max. 10.5A
Van lamp power saurce to the chassis frame: MAX. 7A

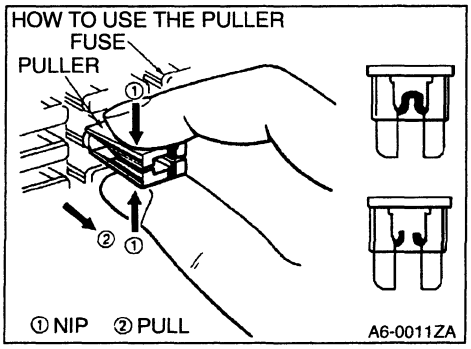
Fusible links

- The fusible links are installed in the fusible link block located on the back of the battery.
- The cause of an overload current should be determined and corrected before a melted fusible link is replaced.
- A melted fusible link can be determined by swelled or melted insulation of the link.

Each fusible link has a connector colored according to its capacity. Always replace with a proper fusible link.

Color of connector	Ampere	Quantity
Pink	FL30A (Cartridge type)	4
Green	FL40A (Cartridge type)	4
Yellow	FL60A (Cartridge type)	3
Purple	FL140A (Cartridge type)	2

22. 5A Parking
23. 15A Spare power
24. 10A Van light switch
25. 5A Spare fuse
26. 10A Spare fuse
27. 15A Spare fuse
28. 20A Spare fuse
29. 15A Air dryer
30. 10A Backup light
31. 15A Mirror
32. 30A Spare fuse



NOTICE:
Never use fuses with a capacity other than that specified.

Additional wiring

- As additional wiring from fuses or circuit breakers causes overheating, it must be avoided.
- For the additional installation of a radio or a spotlight, the terminals for its additional wiring are provided in the cab and on the chassis frame. Wiring should be done at an authorized Hino dealer.
- Loads which can be added are as follows:

Always the power source to the cab.: Max. 10.5A
Tail linkage power source to the chassis frame: Max. 10.5A
Van lamp power saurce to the chassis frame: MAX. 7A

Fusible links

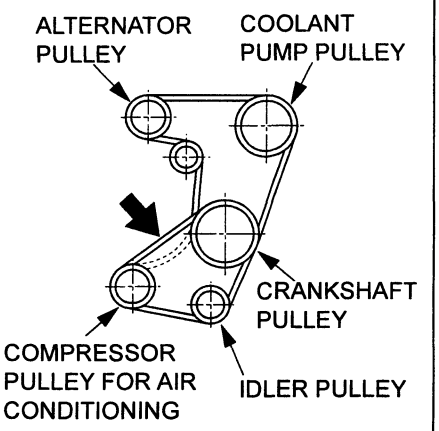
- The fusible links are installed in the fusible link block located on the back of the battery.
- The cause of an overload current should be determined and corrected before a melted fusible link is replaced.
- A melted fusible link can be determined by swelled or melted insulation of the link.

Each fusible link has a connector colored according to its capacity. Always replace with a proper fusible link.

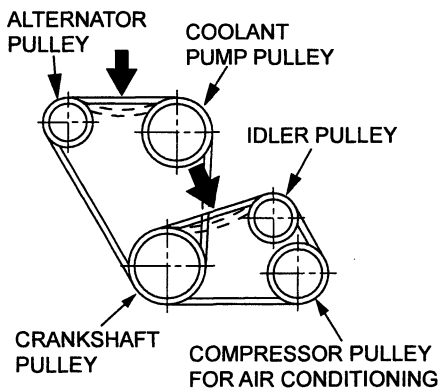
Color of connector	Ampere	Quantity
Pink	FL30A (Cartridge type)	4
Green	FL40A (Cartridge type)	4
Yellow	FL60A (Cartridge type)	3
Purple	FL140A (Cartridge type)	2

Check drive belts

[MODEL: HINO 238, 258, 268, 308, 338]
ENGINE MODEL:J08E



[MODEL: HINO 145, 165, 185]
ENGINE MODEL J05D



Check all drive belts for fraying, cracks, wear or oiliness and tension. Adjust or replace if necessary.

⚠ CAUTION

Keep the engine stopped during this check and adjustment. Moving parts such as the cooling fan and belts can result in personal injury.

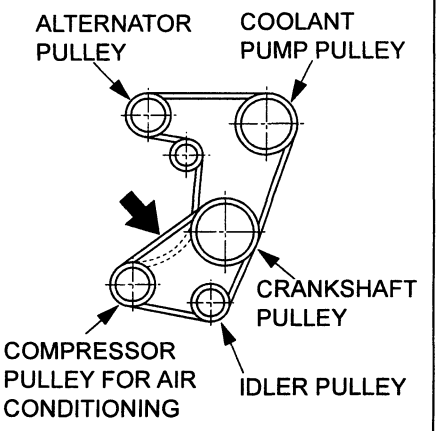
Check belts for proper tension by applying pressure of 22 lbf (10 kgf) with your finger (or using special tool 09444-1210) midway between pulleys as shown in the figure. If necessary, adjust them to their specified tensions.

NOTICE:

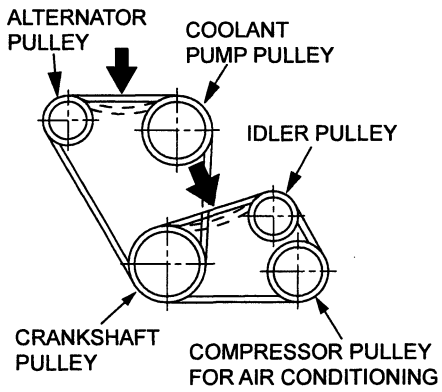
When a new belt is installed or the tension is adjusted, run the engine for several minutes after installation or adjustment. Then check and adjust the tension again. Repeat this operation several times.

Check drive belts

[MODEL: HINO 238, 258, 268, 308, 338]
ENGINE MODEL:J08E



[MODEL: HINO 145, 165, 185]
ENGINE MODEL J05D



Check all drive belts for fraying, cracks, wear or oiliness and tension. Adjust or replace if necessary.

⚠ CAUTION

Keep the engine stopped during this check and adjustment. Moving parts such as the cooling fan and belts can result in personal injury.

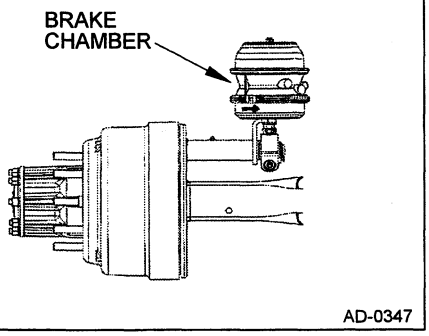
Check belts for proper tension by applying pressure of 22 lbf (10 kgf) with your finger (or using special tool 09444-1210) midway between pulleys as shown in the figure. If necessary, adjust them to their specified tensions.

NOTICE:

When a new belt is installed or the tension is adjusted, run the engine for several minutes after installation or adjustment. Then check and adjust the tension again. Repeat this operation several times.

3. Wipe spilled fluid from coated or painted surface as soon as possible. Otherwise it can damage the coating or paint.
4. Install the reserve tank cap securely after adding fluid. An excessively low fluid level indicates possible leaks in the brake systems. Contact an authorized Hino dealer have them correct it.

Check parking brake [Full air brake type]



1. Check the brake chambers for damage.
2. Check the parking brake air lines for damage.
3. Check the mounting bolts for the brake chambers for tightness. Have an authorized Hino dealer correct, if necessary.

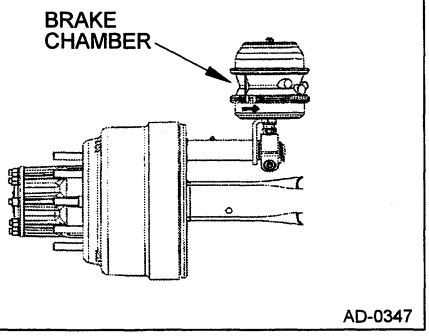
Check in the cab
Check warning lights

When the starter key is in the "START" position, the warning lights will light, if there is no failure in the lights and circuits.
Before starting the engine, use it as a check to see that the lights are operable.

⚠ CAUTION
This can result in a possible malfunction of some part of the vehicle and cause injury or damage.

3. Wipe spilled fluid from coated or painted surface as soon as possible. Otherwise it can damage the coating or paint.
4. Install the reserve tank cap securely after adding fluid. An excessively low fluid level indicates possible leaks in the brake systems. Contact an authorized Hino dealer have them correct it.

Check parking brake [Full air brake type]



1. Check the brake chambers for damage.
2. Check the parking brake air lines for damage.
3. Check the mounting bolts for the brake chambers for tightness. Have an authorized Hino dealer correct, if necessary.

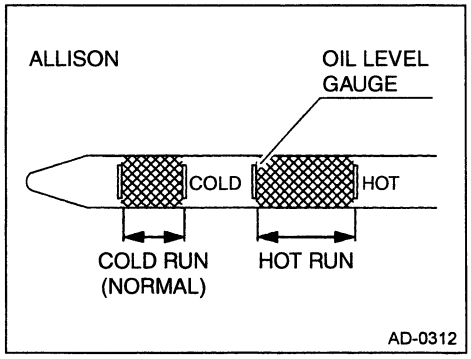
Check in the cab
Check warning lights

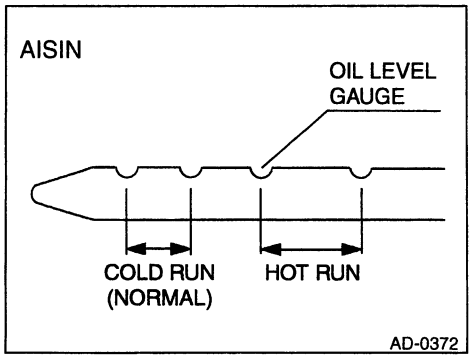
When the starter key is in the "START" position, the warning lights will light, if there is no failure in the lights and circuits.
Before starting the engine, use it as a check to see that the lights are operable.

⚠ CAUTION
This can result in a possible malfunction of some part of the vehicle and cause injury or damage.

If inconsistent readings persist, check the transmission breather and the vent hole in the fluid level gauge fill tube to ensure they are clean and free of debris.

- Always check the fluid level at least twice. Consistency is important in maintaining accuracy. If inconsistent readings persist, check the transmission breather and the vent hole in the fluid level gauge fill tube to ensure they are clean and free of debris. The vent hole is located on the underside of the fill tube just below the seal of the fluid level gauge cap.
- Check the fluid level by the following procedures and record any abnormal level on your maintenance records.



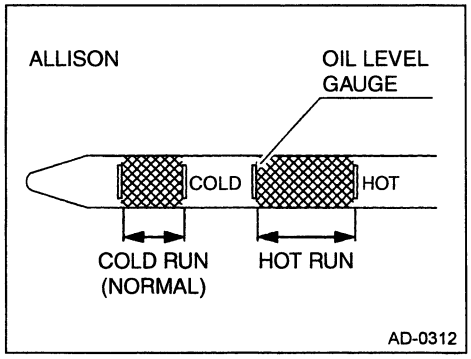


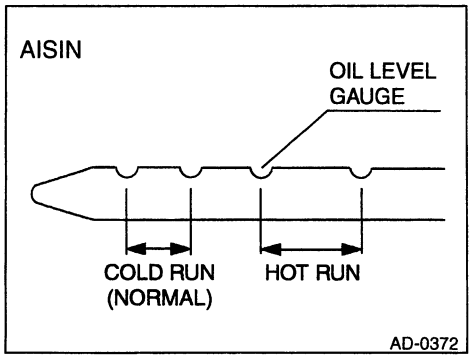
Cold check (Check the fluid level)

- The only purpose of the Cold check is to determine if the transmission has enough fluid to be safely operated until a Hot check can be made.
- Park the vehicle on a level surface and apply the parking brake.
- Run the engine for at least one minute. Shift to first and then to reverse to clear the hydraulic circuits of air. Then shift to neutral and allow the engine to idle. The sump temperature should be between 16 – 49°C {60 – 120°F}.
- After wiping the fluid level gauge clean, check the fluid level. If the fluid on the fluid level gauge is within the "COLD RUN" band, the level is satisfactory for operating the transmission until the fluid is hot enough to perform a HOT RUN check.
  If the fluid level is not within the "COLD RUN" band, add or drain fluid as necessary to bring the level to the middle of the "COLD RUN" band.

If inconsistent readings persist, check the transmission breather and the vent hole in the fluid level gauge fill tube to ensure they are clean and free of debris.

- Always check the fluid level at least twice. Consistency is important in maintaining accuracy. If inconsistent readings persist, check the transmission breather and the vent hole in the fluid level gauge fill tube to ensure they are clean and free of debris. The vent hole is located on the underside of the fill tube just below the seal of the fluid level gauge cap.
- Check the fluid level by the following procedures and record any abnormal level on your maintenance records.





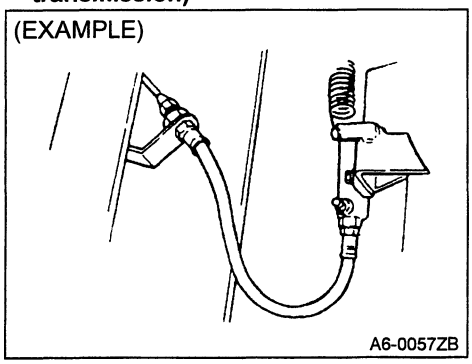
Cold check (Check the fluid level)

- The only purpose of the Cold check is to determine if the transmission has enough fluid to be safely operated until a Hot check can be made.
- Park the vehicle on a level surface and apply the parking brake.
- Run the engine for at least one minute. Shift to first and then to reverse to clear the hydraulic circuits of air. Then shift to neutral and allow the engine to idle. The sump temperature should be between 16 – 49°C {60 – 120°F}.
- After wiping the fluid level gauge clean, check the fluid level. If the fluid on the fluid level gauge is within the "COLD RUN" band, the level is satisfactory for operating the transmission until the fluid is hot enough to perform a HOT RUN check.
  If the fluid level is not within the "COLD RUN" band, add or drain fluid as necessary to bring the level to the middle of the "COLD RUN" band.

Every 18,000 miles (30,000 km)

1. Check clutch line fluid leakage and damage (Not applicable for automatic transmission)

(EXAMPLE)

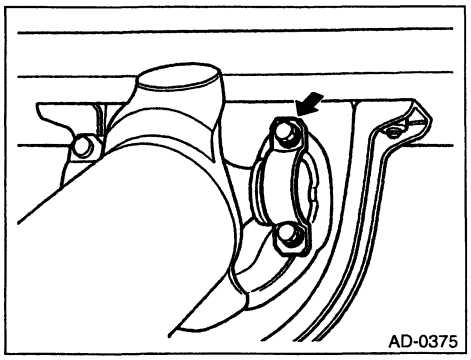


a. Check lines and hoses for damage, rust or rubbing.

b. Check connections for fluid leaks.

c. Repair or replace if necessary.

2. Retighten propeller shaft mounting bolts



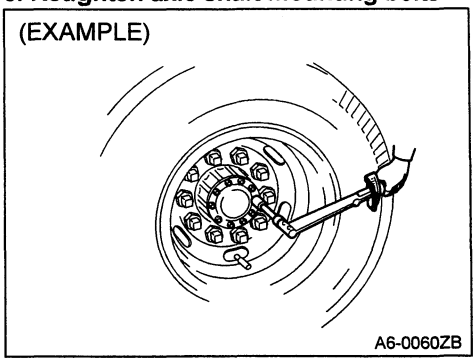
Refer to TABLE 3 "TIGHTENING TORQUE"

⚠ WARNING

Never allow grease and oil to adhere stamped straps, stamped strap bolts and bold holes. The grease and/or oil which adhere to the stamped ratainer bolts, stamped straps, stamped strap bolts, damaged bearing retainers or used inferior grade bolts can cause driveline failure, which can result in separation of driveline from the vehicle. A separated driveline can result in death, serious personal injury or property damage.

3. Retighten axle shaft mounting bolts

(EXAMPLE)



Tighten wheel nuts with torque wrench to specified torque if necessary.

4. Check lubricate king pin

Grease:
Refer to TABLE 7 "RECOMMENDED LUBRICANTS"
Greasing point:
Refer to TABLE 8 "LUBRICATION CHART"

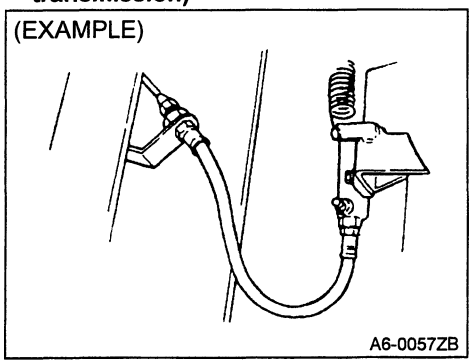
5. Clean battery terminal

Clean the terminal referring to page 7-91.

Every 18,000 miles (30,000 km)

1. Check clutch line fluid leakage and damage (Not applicable for automatic transmission)

(EXAMPLE)

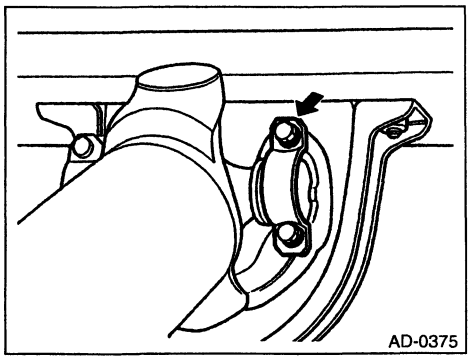


a. Check lines and hoses for damage, rust or rubbing.

b. Check connections for fluid leaks.

c. Repair or replace if necessary.

2. Retighten propeller shaft mounting bolts



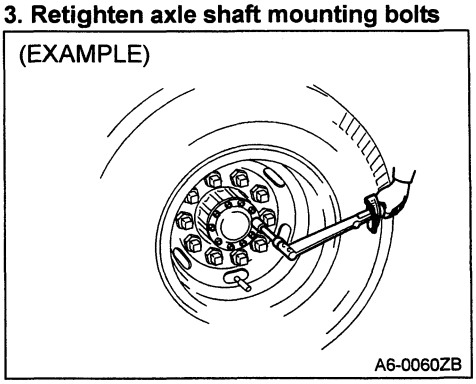
Refer to TABLE 3 "TIGHTENING TORQUE"

⚠ WARNING

Never allow grease and oil to adhere stamped straps, stamped strap bolts and bold holes. The grease and/or oil which adhere to the stamped ratainer bolts, stamped straps, stamped strap bolts, damaged bearing retainers or used inferior grade bolts can cause driveline failure, which can result in separation of driveline from the vehicle. A separated driveline can result in death, serious personal injury or property damage.

3. Retighten axle shaft mounting bolts

(EXAMPLE)



Tighten wheel nuts with torque wrench to specified torque if necessary.

4. Check lubricate king pin

Grease:
Refer to TABLE 7 "RECOMMENDED LUBRICANTS"
Greasing point:
Refer to TABLE 8 "LUBRICATION CHART"

5. Clean battery terminal

Clean the terminal referring to page 7-91.

Every 50,000 miles (80,000 km)

The following item should be performed by an authorized Hino dealer.

1. Check valve clearance

2. Check service brake automatic slack adjuster [Full air brake type]

3. Remove the pawl nut, pawl spring and pawl. Examine the pawl for grease retention.

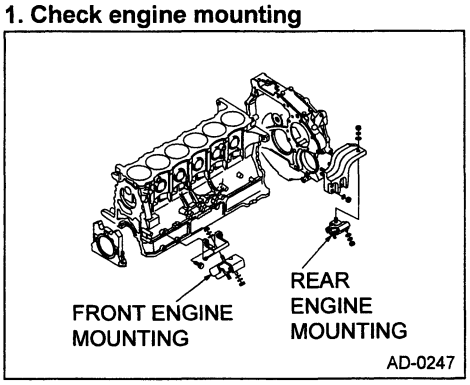
- If the grease is in good condition, install the pawl and pressure relief fitting (or cap screw on early designs), lube through the grease fitting until the lube purges through the pressure relief fitting (or pawl slot on early designs).
- If the grease is hardened or the pawl is dry and shows extreme wear, remove the pawl from the vehicle, disassemble it, clean and inspect the internal parts, and lube and install a new boot and seals.

4. Replace transmission lubricant [Eaton® FS4205A, FS5406A, FS6406A] Highway used

Every 72,000 miles (120,000 km)

The following item should be performed by an authorized Hino dealer.

1. Check engine mounting



a. Check front and rear engine mounting rubbers for cracks. Replace if necessary.

b. Check that front and rear engine mounting nuts are tight. Tighten the nuts if necessary.

Torque:
[Model: HINO 145, 165, 185]
Front (Engine side):
132 N·m (98 lbf·ft, 1,350 kgf·cm)
Front (Chassis side):
88 N·m (65 lbf·ft, 900 kgf·cm)
Rear:
88 N·m (65 lbf·ft, 900 kgf·cm)
Rear (With ATM):
62 N·m (46 lbf·ft, 630 kgf·cm)
[Model: HINO 238, 258, 268, 308, 338]
Front (Engine side):
157 N·m (116 lbf·ft, 1,600 kgf·cm)
Front (Chassis side):
88 N·m (65 lbf·ft, 900 kgf·cm)
Rear:
88 N·m (65 lbf·ft, 900 kgf·cm)

2. Check and replace starter brush

Measure length of the starter brushes. If the lengths are shorter than service limit as shown below, replace all starter brushes.

Every 50,000 miles (80,000 km)

The following item should be performed by an authorized Hino dealer.

1. Check valve clearance

2. Check service brake automatic slack adjuster [Full air brake type]

3. Remove the pawl nut, pawl spring and pawl. Examine the pawl for grease retention.

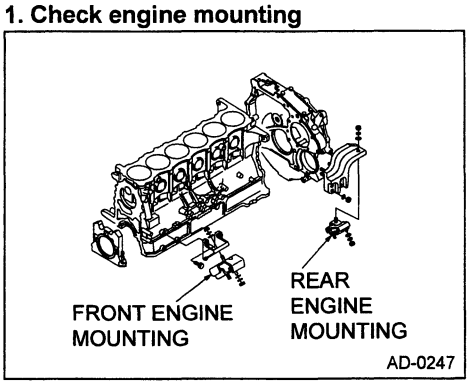
- If the grease is in good condition, install the pawl and pressure relief fitting (or cap screw on early designs), lube through the grease fitting until the lube purges through the pressure relief fitting (or pawl slot on early designs).
- If the grease is hardened or the pawl is dry and shows extreme wear, remove the pawl from the vehicle, disassemble it, clean and inspect the internal parts, and lube and install a new boot and seals.

4. Replace transmission lubricant [Eaton® FS4205A, FS5406A, FS6406A] Highway used

Every 72,000 miles (120,000 km)

The following item should be performed by an authorized Hino dealer.

1. Check engine mounting



a. Check front and rear engine mounting rubbers for cracks. Replace if necessary.

b. Check that front and rear engine mounting nuts are tight. Tighten the nuts if necessary.

Torque:
[Model: HINO 145, 165, 185]
Front (Engine side):
132 N·m (98 lbf·ft, 1,350 kgf·cm)
Front (Chassis side):
88 N·m (65 lbf·ft, 900 kgf·cm)
Rear:
88 N·m (65 lbf·ft, 900 kgf·cm)
Rear (With ATM):
62 N·m (46 lbf·ft, 630 kgf·cm)
[Model: HINO 238, 258, 268, 308, 338]
Front (Engine side):
157 N·m (116 lbf·ft, 1,600 kgf·cm)
Front (Chassis side):
88 N·m (65 lbf·ft, 900 kgf·cm)
Rear:
88 N·m (65 lbf·ft, 900 kgf·cm)

2. Check and replace starter brush

Measure length of the starter brushes. If the lengths are shorter than service limit as shown below, replace all starter brushes.

No.	Item			Standard Dimensions
13	Knuckle turning angle	Inner turn	Model:HINO 145, 165, 185	51 – 53°
			Model:HINO 238, 258, 268, 308, 338	50 – 52°
		Outer turn	Model:HINO 145, 165, 185	36.3°
			Model:HINO 238, 258, 268	36.8°
			Model:HINO 308, 338	37.6°
14	Steering wheel play			0 – 1.38 in. (0 – 35 mm)
15	Brake pedal play		Hydraulic brake type	0.28 – 0.63 in. (9 – 16 mm)
			Full air brake type	0.32 – 0.79 in. (2 – 5 mm)
16	Brake chamber rod stroke (Maximum) (On front axle)		Full air brake type	1.75 in. (44.5 mm)
17	Brake chamber rod stroke (Maximum) (On rear axle)			2 in. (50.8 mm)
18	Brake pad thickness	Standard	B-frame	0.61 in. (15.5 mm)
			4-pad	0.73 in. (18.5 mm)
		Limit	B-frame	0.125 in. (3.2 mm)
			4-pad	0.125 in. (3.2 mm)
19	Brake lining thickness	Standard	Front	0.73 in. (18.5 mm)
			Rear	0.85 in. (21.6 mm)
		Limit	Front	0.25 in. (6.3 mm)
			Rear	0.25 in. (6.3 mm)

No.	Item			Standard Dimensions
13	Knuckle turning angle	Inner turn	Model:HINO 145, 165, 185	51 – 53°
			Model:HINO 238, 258, 268, 308, 338	50 – 52°
		Outer turn	Model:HINO 145, 165, 185	36.3°
			Model:HINO 238, 258, 268	36.8°
			Model:HINO 308, 338	37.6°
14	Steering wheel play			0 – 1.38 in. (0 – 35 mm)
15	Brake pedal play		Hydraulic brake type	0.28 – 0.63 in. (9 – 16 mm)
			Full air brake type	0.32 – 0.79 in. (2 – 5 mm)
16	Brake chamber rod stroke (Maximum) (On front axle)		Full air brake type	1.75 in. (44.5 mm)
17	Brake chamber rod stroke (Maximum) (On rear axle)			2 in. (50.8 mm)
18	Brake pad thickness	Standard	B-frame	0.61 in. (15.5 mm)
			4-pad	0.73 in. (18.5 mm)
		Limit	B-frame	0.125 in. (3.2 mm)
			4-pad	0.125 in. (3.2 mm)
19	Brake lining thickness	Standard	Front	0.73 in. (18.5 mm)
			Rear	0.85 in. (21.6 mm)
		Limit	Front	0.25 in. (6.3 mm)
			Rear	0.25 in. (6.3 mm)

No.	Item		approximate Capacity	
			US Qt	Liter
4	Power steering fluid	Model HINO 145, 165, 185	2.44	2.3
		Model:HINO 238, 258, 268, 308	2.86	2.7
		Model:HINO 338	2.65	2.5
5	Clutch fluid		0.32	0.3
6	Brake fluid [Hydraulic brake type]		3.17	3.0
7	Front wheel hub grease		12.3 oz. (350 g) one wheel (See Workshop Manual)	
8	Refrigerant of air conditioner		15.9 oz.	450 gr.

TABLE 6 PRESSURE

No.	Item		Pressure		
			MPa	lb/sq.in	kg/cm^2
1	Engine oil pressure At coolant temperature: 176°F (80°C) or more	Standard	0.05 – 0.49	7.11 – 71.10	0.5 – 5.0
		Limit	Less than 0.05	Less than 7.11	Less than 0.5
2	Engine compression At engine revolution:150 RPM(r/min)	Standard	2.94 – 3.14	425 – 455	30 – 32
		Limit	2.35	341	24
3	Air pressure	Air dryer type: NABCO®	0.78 – 0.88	113 – 128	7.95 – 8.97
		Air dryer type: Bendix®	0.72 – 0.86	105 – 125	7.38 – 8.79

No.	Item		approximate Capacity	
			US Qt	Liter
4	Power steering fluid	Model HINO 145, 165, 185	2.44	2.3
		Model:HINO 238, 258, 268, 308	2.86	2.7
		Model:HINO 338	2.65	2.5
5	Clutch fluid		0.32	0.3
6	Brake fluid [Hydraulic brake type]		3.17	3.0
7	Front wheel hub grease		12.3 oz. (350 g) one wheel (See Workshop Manual)	
8	Refrigerant of air conditioner		15.9 oz.	450 gr.

TABLE 6 PRESSURE

No.	Item		Pressure		
			MPa	lb/sq.in	kg/cm^2
1	Engine oil pressure At coolant temperature: 176°F (80°C) or more	Standard	0.05 – 0.49	7.11 – 71.10	0.5 – 5.0
		Limit	Less than 0.05	Less than 7.11	Less than 0.5
2	Engine compression At engine revolution:150 RPM(r/min)	Standard	2.94 – 3.14	425 – 455	30 – 32
		Limit	2.35	341	24
3	Air pressure	Air dryer type: NABCO®	0.78 – 0.88	113 – 128	7.95 – 8.97
		Air dryer type: Bendix®	0.72 – 0.86	105 – 125	7.38 – 8.79

SECTION 8

REPORTING SAFETY DEFECTS

INTRODUCTION

SECTION 8

REPORTING SAFETY DEFECTS

INTRODUCTION

REPORTING SAFETY DEFECTS (For U.S. Owner) 8-2
NOISE CONTROL MAINTENANCE RECORD 8-3