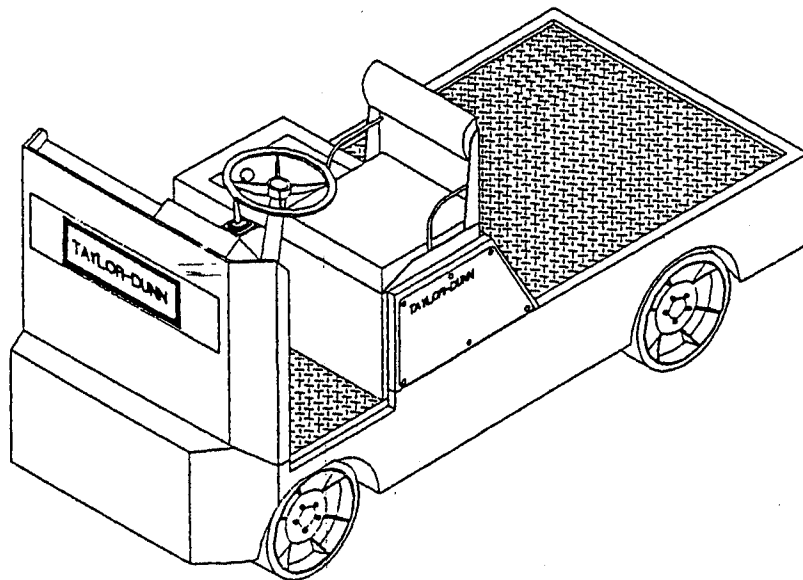


**TAYLOR-DUNN**

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# **OPERATION SERVICE AND PARTS MANUAL**

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MODEL: B 6-60, B 6-61  
YEAR: OCTOBER 1989 + UP  
SERIAL NO: 92463 + UP  
MANUAL NO: MB-660-00

PRICE: \$25.00

## **CONDITIONAL WARRANTY**

Taylor-Dunn standard products are warranted for 90 days, parts and labor, unless otherwise stated in the purchase order. Warranties on non-standard products are offered individually.

Products that are under warranty and found to be defective will be repaired or replaced, at Taylor-Dunn's discretion, without charge to the original customer. The original customer will be charged for repair or testing of products that are not under warranty or are not found to be defective when returned under the warranty.

Taylor-Dunn's warranty does not cover misuse or neglect, whether intentional or accidental, due to (but not limited to) any of the following: using incorrect parts; improper installation; improper or unauthorized repair; missing or altered serial numbers; modifications made by the customer; or damage caused by fire, flood or acts of God.

Warranty will be based on dealer's policy at time of sale. All warranty work must be performed by an authorized Taylor-Dunn dealer. It is preferable to obtain warranty service from your original dealer.

It is the vehicle owner's responsibility to maintain and service this vehicle as specified in this manual to ensure warranty coverage.

Be sure to verify the warranty status of this vehicle BEFORE warranty work on this vehicle begins. Any exceptions to the warranty policy must be obtained in writing from Taylor-Dunn Manufacturing Company BEFORE any warranty work begins.

Poor operating habits and improper use of this vehicle can contribute to excessive wear and tear of this vehicle. This may affect your warranty status. When in doubt, consult your authorized Taylor-Dunn dealer.

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## **TAYLOR-DUNN SERVICE CENTER**

You may contact the Taylor-Dunn Service Center directly at:

**TAYLOR-DUNN MANUFACTURING COMPANY**  
2114 West Ball Road  
Anaheim, CA 92804  
Phone: (714) 956-4040  
For Parts: FAX (714) 535-8029  
For Service: FAX (714) 956-0504

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# **SECTION 1: INTRODUCTION**

# ABOUT THIS MANUAL

This manual provides you with information you need to safely operate and maintain this vehicle. We assume that you are a trained vehicle service technician capable of performing routine maintenance procedures such as changing a tire, changing oil, hooking up a tachometer, and so forth.

We also assume that you have or will attend a training program designed to familiarize you with the safe operation and use of this particular vehicle.

This manual contains the following major sections:

**SECTION 1: INTRODUCTION** — contains information about how to use this manual, a description of the B 6-60/61, how to do an incoming inspection, and vehicle specifications.

**SECTION 2: VEHICLE OPERATION** — provides safety rules and guidelines, describes the driver training program, and explains the operation of each control on the B 6-60/61.

**SECTION 3: MAINTENANCE PROCEDURES** — contains a scheduled maintenance checklist, lubrication diagram, troubleshooting guide, recommended spare parts list, and detailed maintenance procedures for the B 6-60/61.

**SECTION 4: SERVICE PROCEDURES** — contains service procedures, in alphabetical order, for each assembly found in the B 6-60/61. Each major heading contains procedures organized in logical order.

**SECTION 5: ILLUSTRATED PARTS** — includes an illustration and parts list for each assembly that has replaceable parts for the B 6-60/61.

**SECTION 6: MASTER PARTS LIST** — references the page for every replaceable part in this manual, organized by part number.

# NOTATIONAL CONVENTIONS

The following types of notations are used throughout this manual:

## **WARNING!**

A warning alerts you of something that may cause injury to yourself or others. Be sure you exercise special care and follow any instructions provided in a warning message.

## **Caution!**

A caution informs you of something that may cause damage to the vehicle. Be sure you exercise special care and follow any instructions provided in a caution message.

*Note: A note provides additional information about a subject.*

*Tip: A tip is a suggestion that you might find helpful for a specific procedure.*

# VEHICLE DESCRIPTION

**Note:** *This manual applies to vehicles with serial numbers starting at 92463.*

The B 6-60 and B 6-61 are industrial trucks designed to transport heavy loads through narrow aisles and over outdoor surfaces. Each vehicle provides the type of excellent maneuverability and operational comfort you might expect from lighter duty vehicles.

The B 6-60 can handle a total payload (cargo, passenger and driver) of up to 4400 lbs., while the B 6-61 can handle up to 6400 lbs. Various options enable you to customize the vehicle's frame to the load you wish to carry (consult your Taylor-Dunn salesperson or representative for current options).

The engine is a 4-cycle, twin cylinder (53.9 cubic inches), L-head air cooled engine. Air is circulated over the cylinders and heads by a fan and flywheel that are encased in a sheetmetal shroud. A series of ducts and baffle plates divides and directs the air over the entire engine to ensure uniform cooling.

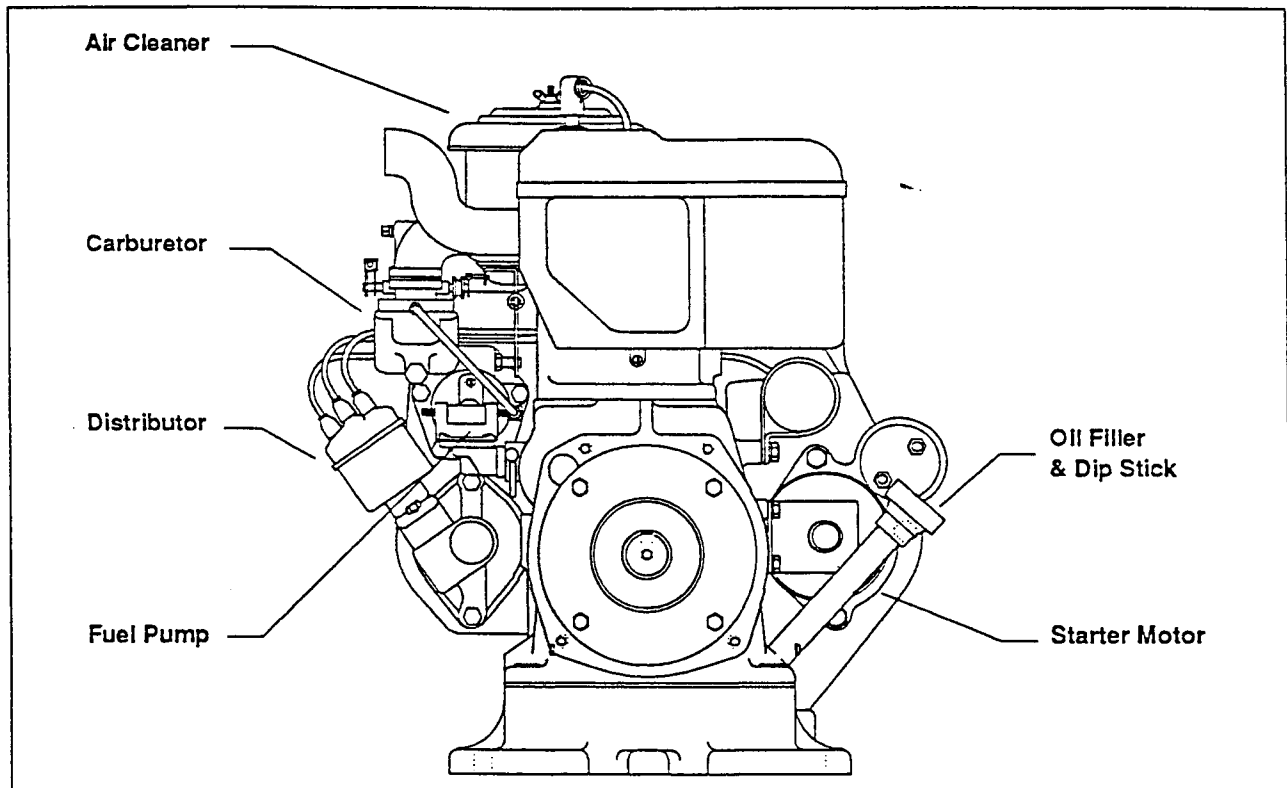


Figure 1 Front view of engine

**Caution!**

Never operate the engine with any part of the shrouding removed. This will prevent adequate cooling of the engine and may cause serious damage.

A plunger-type pump and spray nozzle directs oil streams against the connecting rods. A portion of the oil enters the rod bearings, and the remaining oil is sprayed over all internal friction surfaces of the engine. An external oil line from the oil header in the crankcase lubricates the governor and gear train.

*Note: Refer to Supplement M7-001-02 for additional detail on engine servicing. Refer to Supplement M7-001-03 for additional detail on liquid petroleum options. Supplements are available from your Taylor-Dunn dealer.*

This vehicle conforms to requirements for **Type G** as described in *O.S.H.A. Standard Section 1910.178* (Powered Industrial Trucks) and with all applicable portions of the *American National Standard for Personnel and Burden Carriers* (ANSI B56.8-1988).

The model and serial number for this vehicle are imprinted on a decal attached to the steering column support.

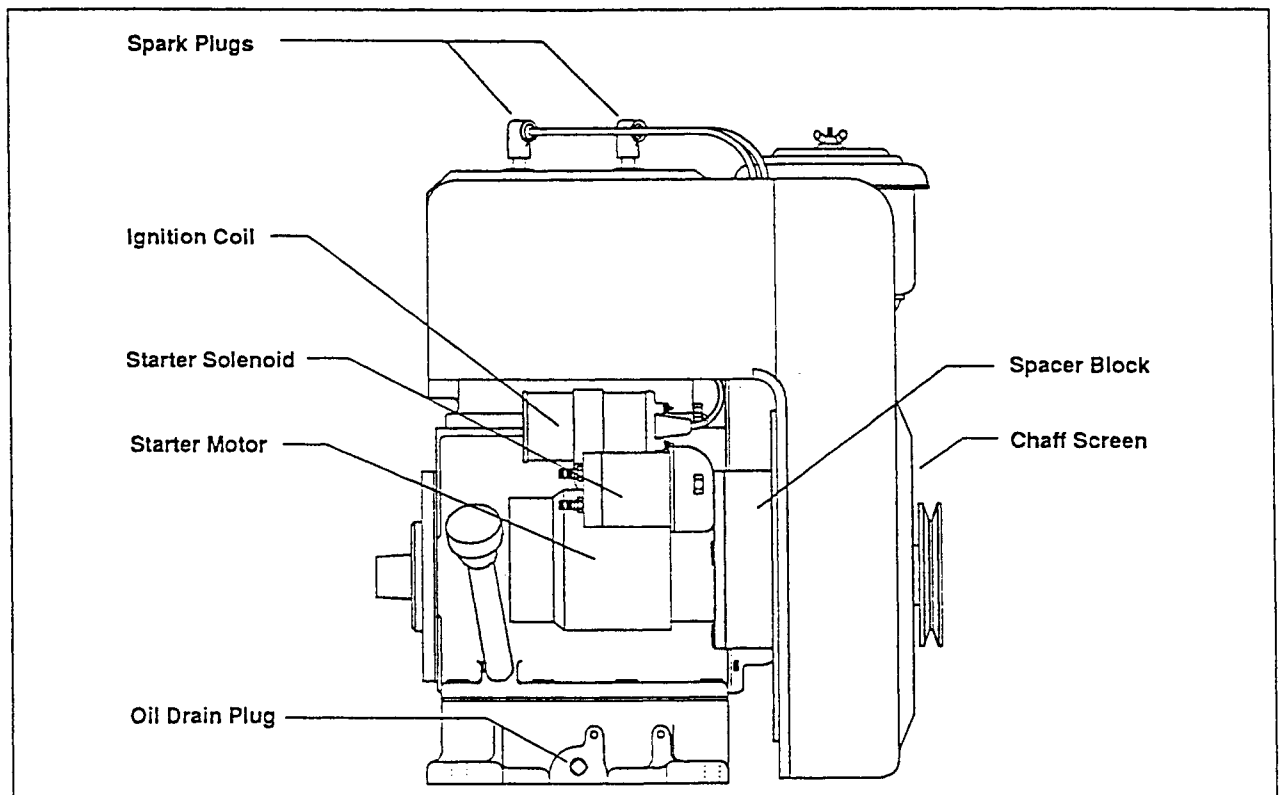


Figure 2 Side view of engine

# SPECIFICATIONS

ITEM	SPECIFICATION
Standard Dimensions (Length x Width x Height) (other sizes available)	261.6 X 112.4 X 143.5 Cm
	103" X 44¼" X 56½" (other sizes available)
Standard Dry Weight (other sizes available)	B 6-60: 793 Kg (1750 lbs)
	B 6-61: 839 Kg (1850 lbs)
Standard Turning Radius (other sizes available)	284.5 Cm (112")
Hill Climbing Ability	Max 10° incline
Lubrication System	Oil pump
Engine Oil Capacity	3.3 liters (3.5 quarts)
Oil Grade	+40°F to +120°F (spring, summer, fall): SAE 30 Below +40°F (winter): SAE 20-20W
Fuel Tank Capacity	30.2 liters (8 US gallons)
Fuel Type	Regular or unleaded
Spark Plug Type	D-16J or C 86 AC
Spark Gap	0.030"
Transmission System	3-speed manual with reverse
Brakes	Rear hydraulic drum brakes and self adjusting brake shoe
	parking brake with hand-release lever



ITEM	SPECIFICATION
Engine	Model: TJD 18 HP
	Head Type: L head
	Cylinders: 4 cycle twin cylinder
	Cooling: air cooled
	Ignition: solid state with governor
Tires (Solid Cushion - 3000 lb. maximum load)	B 6-60: 18" X 5" X 14" (front and rear)
	B 6-61: 18" X 5" X 14" (front) 21" X 5" X 15" (rear)
Tires (Pneumatic - 3000 lb. maximum load)	B 6-60: 5.70" x 8" (front) 5.30" x 12" (rear)
	B 6-61: pneumatic tires not available for this model
	Inflation: 80 psi
Max Loading Limit (including passenger and driver)	B 6-60: 2000 Kg (4400 lbs)
	B 6-61: 2909 Kg (6400 lbs)
Battery	12 volts, 75 amps
Alternator	60 amps (external)

# TAKING DELIVERY OF YOUR VEHICLE

Before you sign the carrier's delivery receipt for this vehicle, use the following guidelines to make sure there are no obvious problems.

## Inspecting the Vehicle

- ☐ Examine the contents of all packages and accessories that may have come in separate packages with this vehicle. Make sure everything listed on the packing slip is there and nothing looks broken or damaged.
- ☐ Examine any visible wiring for obvious signs of damage. Check that all connections are secure.
- ☐ Check that the battery connections are tight and all cells are filled.
- ☐ Inspect the tires for obvious wear or damage. If pneumatic tires are installed (optional), check the tire pressure (80 psi). Make sure that all wheel lugs are secure.
- ☐ Check the body, seats, windshield, trim and other external options for obvious damage.
- ☐ Check the engine oil.

## Checking the Controls

Try each of the following controls before you start the engine:

- ☐ accelerator pedal
- ☐ brake pedal
- ☐ gear shift lever
- ☐ parking brake
- ☐ steering wheel
- ☐ clutch pedal
- ☐ choke
- ☐ horn
- ☐ lights (headlights and taillights are optional)

Each control should move smoothly and easily, without sticking or requiring undue effort.

### **Caution!**

Do not start the engine when first checking the controls.

## Starting the Engine

To start the engine, do the following:

- 1** Put the gearshift in neutral.
- 2** Apply the hand brake.
- 3** Depress the clutch pedal all the way in and hold it in.
- 4** Insert the ignition key and turn clockwise (towards the front) until the engine starts, then release the key.

*Note: If the engine is cold, pull on the choke while starting the engine. When engine starts, gradually push in on choke until engine runs smoothly.*

### **WARNING!**

**Do not drive the vehicle if you discover any problem that may prevent you from operating this vehicle in a safe manner.**

- 5** After the engine runs smoothly, turn off the engine and remove the key.

## Approving Delivery

Place a check mark next to each item that is true:

- ☐ visual inspection OK
- ☐ all controls work properly
- ☐ engine runs smoothly
- ☐ no other problems found

If all items have been checked, you may sign the delivery receipt and proceed to the next section. If not, read *What To Do If You Find A Problem* next.

## What To Do If You Find A Problem

---

After you check all items in the *Approving Delivery* section, and you find any other problem with this vehicle, you must describe the problem on the carrier's delivery receipt to qualify for warranty repair of those items (see *Warranty* at front of manual).

*Note: If you discover a problem after you sign the delivery receipt, you must file a written report describing the problem to the carrier who delivered this vehicle. This report must be filed within 48 hours from the date you signed the receipt for this vehicle.*

### **Caution!**

---

Do not repair, modify or adjust any part of this vehicle unless you are qualified to do so.

---

# **SECTION 2: VEHICLE OPERATION**

# SAFETY RULES AND GUIDELINES

*Note: It is the responsibility of the owner of this vehicle to ensure that the operator understands the various controls and operating characteristics of this vehicle, and obeys the following safety rules and guidelines (extracted from the American National Standards Institute, Personnel and Burden Carriers — ANSI B56.8).*

## Driving

This vehicle is designed to be driven in and around places such as warehouses, nurseries, motels, parks and resorts. Before you drive this vehicle, please observe the following safety rules and guidelines.

### **WARNING!**

**Do not drive this vehicle on public roads and highways. Do not exceed 20 MPH at any time. Speeds in excess of 20 MPH may cause steering difficulty and loss of control.**

- ◆ do not drive this vehicle unless you are a qualified operator
- ◆ do not start or move this vehicle unless all occupants are seated
- ◆ keep all body parts (head, arms, legs) inside this vehicle while it is moving
- ◆ drive slowly when making a turn, especially if the ground is wet or slippery, and when driving on an incline

### **WARNING!**

**This vehicle may overturn easily if turned sharply when driving, especially when on an incline or when carrying a heavy load.**

- ◆ drive only on level surfaces or on surfaces having an incline of no more than 10%

- ◆ do not drive over loose objects, holes or bumps
- ◆ observe all traffic regulations and speed limits
- ◆ keep to the right under normal conditions
- ◆ maintain a safe distance from all objects
- ◆ keep the vehicle under control at all times
- ◆ yield right of way to pedestrians, ambulances, fire trucks or other vehicles in emergency situations
- ◆ do not overtake another vehicle at intersections, blind spots or other dangerous locations
- ◆ keep a clear view ahead at all times
- ◆ slow down and sound the horn when approaching a corner or other blind intersection
- ◆ avoid dangerous activities such as stunt driving or horseplay
- ◆ do not drive with more than the maximum number of passengers allowed for this vehicle
- ◆ do not drive this vehicle in hazardous areas unless this vehicle is approved for such operation
- ◆ immediately report any accident to your supervisor

## **Loading and Unloading**

- ◆ do not load cargo that can easily fall off this vehicle
- ◆ do not exceed the cargo load capacity of this vehicle
- ◆ do not carry more than the maximum number of passengers allowed for this vehicle
- ◆ be extra careful when handling cargo that is longer, wider or higher than this vehicle

## Parking

---

- ◆ set hand brake before leaving vehicle
- ◆ if you will be away from this vehicle, put the gearshift in neutral, set the hand brake, turn off the ignition and remove the key
- ◆ if you park this vehicle on an incline, block the wheels; use only the brakes (NOT the clutch) to stop the vehicle on an incline
- ◆ do not block fire aisles, fire equipment or stairways

## Refueling

---

### **WARNING!**

**Do not smoke, light a match or cigarette lighter when checking the fuel level or battery electrolyte.**

- ◆ stop the engine and get out of the vehicle while refueling
- ◆ do not start vehicle if fuel or battery is leaking
- ◆ be sure that the spring-loaded fuel tank cap is latched (cap closes automatically but might not latch), and clean up all spilled oil or fuel before restarting engine



## Towing

---

### **Caution**

If you attempt to jump-start the engine, use a 12 V battery and ensure that the cables are hooked up properly (polarity is positive to positive, negative to negative).

---

- ◆ to tow this vehicle, attach a tow strap to the front bumper tow bar and place the gearshift in neutral,

- ◆ use another driver to steer this vehicle while it is towed; be sure the driver uses the brakes when you slow or stop the towing vehicle.

### **WARNING!**

**Do not exceed 20 MPH or carry any passengers while towing this vehicle.**

---

# VEHICLE CONTROLS

The following describes the use of each control on this vehicle.

**Note:** *Some controls are optional equipment and may not be installed on this vehicle.*

## Accelerator pedal

The accelerator pedal, located to the right of the brake pedal, controls the speed of the vehicle and is designed for right foot operation only. It operates the same as the accelerator pedal in an automobile.

## Backup warning buzzer (optional)

A warning buzzer sounds whenever the gearshift is in reverse and the ignition is on.

## Choke knob

The choke knob, located on dash, is used to start a cold engine. Pull the choke knob out before starting the engine if the engine is cold. Push the choke knob in as the engine warms up.

## Clutch pedal

The clutch pedal, located to the left of the steering column, is used to engage and disengage the clutch during shifting. It operates like a standard shift automobile. To disengage the clutch, press on the pedal with your foot. To engage the clutch, remove your foot from the clutch pedal.

## Foot brake pedal

The foot brake pedal, located to the right of the steering column, is for operation with the right foot only. It works the same as the brake in an automobile. Applying pressure to the brake pedal slows the vehicle according to the amount of pressure you apply. Removing your foot from the pedal releases the braking action.

## Fuel gauge

The fuel gauge, located on the instrument panel, indicates the amount of fuel remaining in the fuel tank. The gasoline filler cap is located on the right hand side of the front seat.

**Note:** *There is no reserve fuel when the fuel gauge reads Empty.*

## Gearshift lever

The gearshift lever, located to the right of the steering column, determines the direction of travel (forward or reverse) of the vehicle. It has three forward speeds and one reverse speed. It has a standard "H" shift pattern similar to most 3-speed manual shift transmissions.

## Hand brake lever

The hand brake lever is located to the left of the clutch pedal. To set the hand brake when parking, pull back on the lever. Push the lever forward to release the hand brake.

**Tip:** To quickly apply the hand brake, depress the foot brake pedal first.

### Headlight switch (optional)

A single headlight switch, located on the instrument panel, turns the headlight and taillights on or off. To turn the lights on, flip the light switch up. To turn the lights off, flip the light switch down.

### Horn button

The horn button, located on the steering wheel, operates like the horn on a standard automobile. Depress the button to sound the horn, and release the button to stop.

### Keylock

A keylock, located on the instrument panel, is designed to lock the ignition switch in the OFF position. You cannot remove the key when the keylock is in the ON position.

#### **Caution!**

Place gearshift in the neutral position before turning on the ignition.

### Steering

The steering system is similar to standard automobiles. To turn right, turn the steering wheel clockwise (to the right). To turn left, turn the steering wheel counterclockwise (to the left).

### Turnsignal lever (optional)

The turnsignal lever, located on the steering column, is used to indicate the direction you intend to turn. To signal a right turn, move the turnsignal lever forward. To signal a left turn, move the turnsignal lever back. Indicating lamps flash when the turnsignal is activated.

**Tip:** To use the turnsignals as an emergency flasher, pull the control lever out when the lever is in the neutral position.

### Warning light (Oil)

The oil warning light, located on the instrument panel, glows momentarily when you start the engine, but goes out after the engine starts. If the oil level is too low, the light remains on.

### Warning light (Temperature)

The temperature warning light, located on the instrument panel, glows momentarily when you start the engine, but goes out after the engine starts. If the engine temperature is too high, the light remains on.

**Note:** Low oil pressure causes BOTH lights (oil light and temperature light) to remain on after the engine starts.

### Windshield wiper switch (optional)

The windshield wiper control switch turns the electric windshield wiper on and off.

# DRIVER TRAINING PROGRAM

The owner of this vehicle shall conduct an Operator Training program in its entirety to all those who will be operating this vehicle. The training program shall not be condensed for those claiming to have previous vehicle operation experience. Successful completion of the Operator Training program shall be required for all personnel who operate this vehicle.

The Operator Training program shall include the following:

- operation of this vehicle under circumstances normally associated with your particular environment
- emphasis on the safety of all passengers, cargo and personnel
- all safety rules contained within this manual
- proper operation of all vehicle controls
- a vehicle operation and driving test

## Qualifications Of Driver

---

Only those who have successfully completed the Operator Training program are authorized to drive this vehicle. Operators must possess the visual, auditory, physical and mental ability to safely operate this vehicle as specified in the *American National Standards Institute, Personnel and Burden Carriers — ANSI B56.8*.

The following are the minimum requirements necessary to qualify as an Operator of this vehicle:

- demonstrate a working knowledge of each control
- understand all safety rules and guidelines as presented in this manual
- know how to properly load and unload cargo and passengers
- know how to properly park this vehicle
- recognize an improperly maintained and running vehicle
- demonstrate ability to handle this vehicle in all conditions likely to be encountered

# **SECTION 3: SCHEDULED MAINTENANCE**

**WARNING!**

Before performing general maintenance on any part of the vehicle, be sure you turn off the ignition, remove the key and disconnect the main battery leads to prevent accidentally starting the engine.

# INTRODUCTION

This section explains how to perform the scheduled maintenance procedures. Use the *Maintenance Checklist* to determine how often you should perform each procedure.

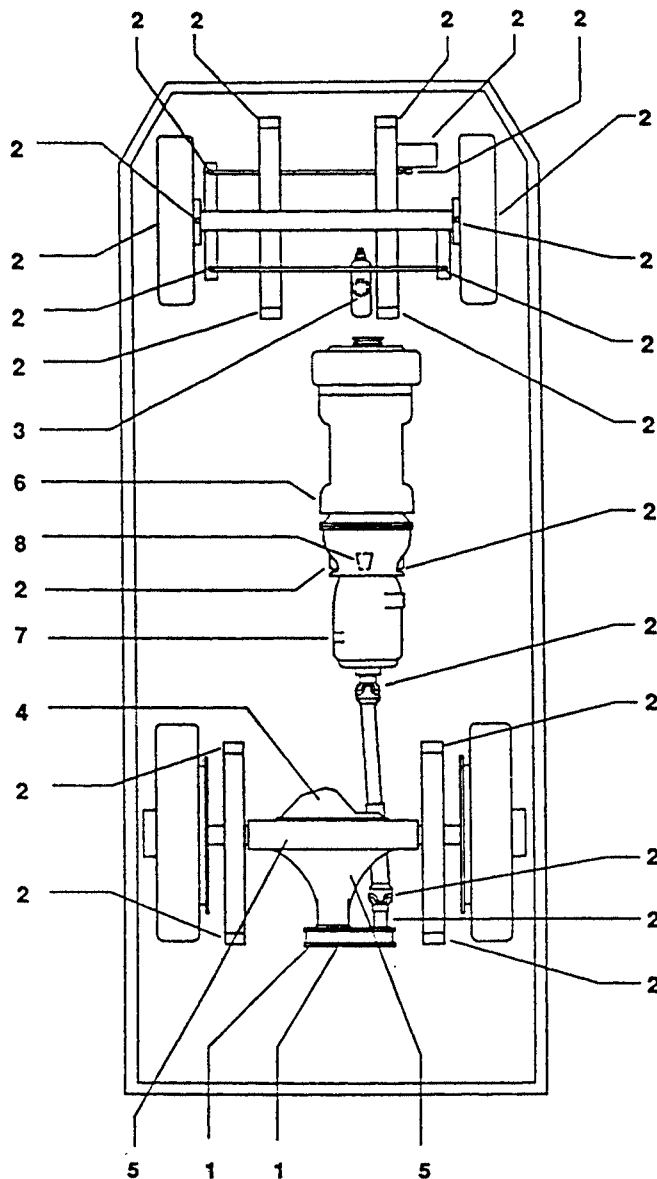
This section contains the following:

- maintenance checklist
- lubrication chart
- troubleshooting guide
- recommended spare parts list
- detailed maintenance procedures

# MAINTENANCE CHECKLIST

PERIODIC MAINTENANCE CHECKLIST					
Maintenance Item	Weekly (40 hrs)	Monthly (160 hrs)	Quarterly (480 hrs)	Semi- yearly (960 hrs)	Yearly (1920 hrs)
*Check and adjust brake system as necessary.	-	✓	-	-	-
*Lubricate front wheel bearings (2 zerk fittings)	-	-	-	✓	-
*Check brake lining for wear.	-	-	✓	-	-
*Check and adjust front bearings.	-	-	✓	-	-
*Check foot operated brake system.	-	✓	-	-	-
*Check hydraulic brake system for leaks and brake fluid level in master cylinder.	-	-	✓	-	-
*Lubricate steering gear box.	-	-	-	✓	-
Check and fill battery (use distilled water only).	-	✓	-	-	-
Adjust rear axle transfer case chain.	-	-	✓	-	-
Lubricate all Zerk fittings.	-	✓	-	-	-
Lubricate all moving parts without Zerk fittings (use all-purpose engine oil).	-	-	✓	-	-
Wash battery with water (use soda if necessary)	-	-	✓	-	-
Clean and tighten all wire connections.	-	-	✓	-	-
Check rear axle differential and transfer case.	-	-	-	✓	-
Drain rear axle differential and transfer case; refill with SAE 30 oil.	-	-	-	-	✓
Clean and repack front wheel bearings (use wheel bearing grease)	-	-	-	✓	-
Check air cleaner and filter.	✓	-	-	-	-
Check engine oil.	✓	-	-	-	-
NOTE: Items with an asterisk (*) are related to safety.					

# LUBRICATION CHART



- 1 - SAE 90 Multi-Service Gear Lube
- 2 - Super Lithium Grease
- 3 - DOT 5 Brake Fluid
- 4 - SAE 140 Multi-Service Gear Lube (B6-61 only)
- 5 - SAE 90 Multi-Service Gear Lube (B6-60 only)
- 6 - Engine Oil
- 7 - SAE 90 Multi-Service Gear Lube
- 8 - Clutch Release Sleeve, Super Lithium Grease



# TROUBLESHOOTING GUIDE

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
Steering pulls in one direction	Loose wheel bearing	Adjust wheel bearing
	Low tire pressure (pneumatic)	Fill tires to 80 psi
	Front brakes	Service front brakes
	Loose front axle mounting	Tighten mounting bolts
Hard to steer	Loose wheel bearing	Adjust wheel bearing
	Low tire pressure (pneumatic)	Fill tires to 80 psi
	Damaged solid tire	Replace tire
	Worn ball joints	Replace ball joints
	Unlubricated ball joints	Lubricate ball joints
	Worn king pin bushings	Replace king pin bushings
	Unlubricated king pin bushings	Lubricate king pin bushings
Brakes feel soft	Check for worn lining	Adjust brake shoes; replace shoes if lining is less than 0.039"
	Alignment of brake shoes	Realign brake shoes
	Oil on brake shoe lining	Find oil source and correct, or replace brake shoes
	Dirt on brake shoe lining	Clean brake shoe lining
	Bind in linkage	Loosen or realign brake linkage
	Weak pedal return spring	Replace pedal return spring
	Air in hydraulic brake lines	Bleed brake lines
	Bad seals in wheel cylinders	Rebuild or replace wheel cylinders
	Bad seal in master cylinder	Rebuild or replace master cylinder
No brakes	Broken shoe	Replace brake shoe
	Broken connection in linkage	Replace linkage
	Break in hydraulic line	Repair hydraulic line
	Seal failure in wheel cylinder	Replace wheel cylinder
	Seal failure in master cylinder	Rebuild or replace master cylinder

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
Lack of power or slow operation	Dragging brake	Re-adjust brakes
	Tight front wheel bearing	Re-adjust wheel bearing
	Bad rear axle bearing	Replace bearings
	Clutch slippage	Adjust clutch cable; replace clutch
	Bind or drag on differential	Repair differential
	Engine runs erratic	Check fuel filter; blow out line; check fuel pump; check for water in tank; clean carburetor bowl
Engine does not crank	Starter	Check starter and solenoid
	Weak or no spark from coil	Coil installed backwards; defective coil; check for loose or broken connections; check distributor module
	No spark at plug	Check rotor and distributor cap; check spark plug wires
	Ignition timing incorrect	Adjust timing; replace faulty spark plugs; clean and regap spark plugs
	Dead battery	Replace or recharge battery
Alternator does not charge	Defective alternator	Replace alternator
Thump or grinding noise in drive axle	Worn sprockets	Replace sprockets and chain
	Defective bearing in differential	Replace bearing
	Defective gears in differential	Replace gears
	Slack drive chain	Adjust drive chain
Oil warning light on	Check oil level	Check for leaks; refill oil
Temperature warning light on	Check for dirt and debris on pulley end of crankshaft	Clean chaff screen
	Check for blockage in engine duct work	Remove blockage
	Check for blockage in rear and side body vents	Remove blockage
NOTE: When the oil pressure is too low, the oil and temperature lights remain on after starting engine.		

# RECOMMENDED SPARE PARTS LIST

PART #	DESCRIPTION	QTY.
05-210-02	Filter, Fuel	1
13-957-11	Tire and Wheel Assembly, Solid Cushion	2
13-958-10	Tire and Wheel Assembly, Solid Cushion	2
30-600-30	Alternator belt	1
41-348-71	Cable, Hand Brake	1
41-632-00	Brake Shoes, 11" (B 6-60 only)	1 set
42-352-60	Brake Shoes, 12" (B 6-61 only)	1 set
66-001-00	Air Cleaner and Filter	1
66-001-01	Filter, Air Cleaner	1
66-002-61	Carburetor Kit, Gasket	1
66-003-60	Kit, Fuel Pump	1
66-004-00	Starter Motor Assembly Kit, 12 Volt	1
66-004-04	Drive Gear Assembly, Starter Motor	1
66-004-05	Switch Assembly, Solenoid	1
66-005-01	Cap, Distributor	1
66-005-02	Rotor, Distributor	1
66-005-03	Electronic Module, Distributor	1
66-022-00	Alternator and belt	1
66-499-10	Clutch Plate	1
66-499-00	Clutch Plate, Pressure	1
66-500-00	Transmission Assembly	1
70-106-00	Brush Set with Holders	1
71-100-00	Switch, Toggle	2
71-120-01	Switch, Ignition	1
71-501-00	Button, Horn	1
72-028-20	Assembly, Rectangular Light, Red	2
72-501-12	Starter Solenoid	1
73-004-00	Horn, 12 V	1
74-000-00	Meter, Hour	1
74-009-20	Fuel Gauge	1
75-146-45	Cable, Battery, Positive	1
75-146-46	Cable, Battery, Negative	1
79-820-04	Fuses, 10 Amp	4
79-853-20	Meter, Amps	1
80-660-00	Bearing, Release Sleeve	1

PART #	DESCRIPTION	QTY.
85-000-02	Spring, Hand Brake	2
85-201-10	Spring, Extension	1
85-209-10	Spring Extension, Bottom, 12" Brake (B 6-61 only)	2
85-211-10	Spring Extension, Top, 12" Brake (B 6-61 only)	2
85-295-00	Spring, Release, 9/16" x 47/8"	1
85-270-00	Spring, Extension, 1 1/4" x 4 3/8"	1
87-071-00	Grease Fitting, 3/16"	4
87-074-00	Grease Fitting, 1/4"	2
96-826-14	Cable, Hand Brake (B 6-61 only)	2
96-827-13	Cable, Hand Brake (B 6-60 only)	1
96-860-01	Cable, Choke	1
98-512-20	Fuel Line	1
99-510-01	Master Cylinder	1
xx-xxx-xx	Spark Plugs, D-16J (C 86 AC)	2
NOTE: The quantity indicated is per vehicle.		

# SPECIAL TOOLS

MAINTENANCE PROCEDURE	USE THIS TOOL:	TO DO THIS:
Tune Up	Inductive Tachometer	measure engine RPM
	Compression gauge	measure engine compression
Engine Service	Universal Puller	remove flywheel
	Valve Spring Compressor	remove and install valve assemblies
	Valve Adjuster	adjust valve clearance
Chassis Service	Cable Injector	to lubricate cables
	Dial Gauge	measure small movement or runout
Electrical Service	Pocket Tester	check electrical system
	Hydrometer	measure the specific gravity of the battery electrolyte
	Ohmmeter	check continuity of electrical wiring
	Dynamic Spark Tester	check the ignition system components
Transmission Service	Bearing Installer	install drive gear and main shaft bearings
	Bearing Puller	remove drive gear and main shaft bearings

# MAINTENANCE PROCEDURES

## Air Cleaner and Filter

To clean or replace the air cleaner and filter, do the following (see Figure 3):

- 1** Remove filter and wash in a low flash-point solvent or soapy water.
- 2** Remove oil and clean out air cleaner bowl.

- 3** Add fresh (SAE 30) oil to the Oil Level line shown on the bowl.

**Note:** If engine operates in very dusty conditions, clean the air cleaner and filter DAILY.

### Caution

Operating the engine in very dusty conditions without oil in the air cleaner or with dirty oil may wear out the cylinder, piston, rings and bearings in only a few days.

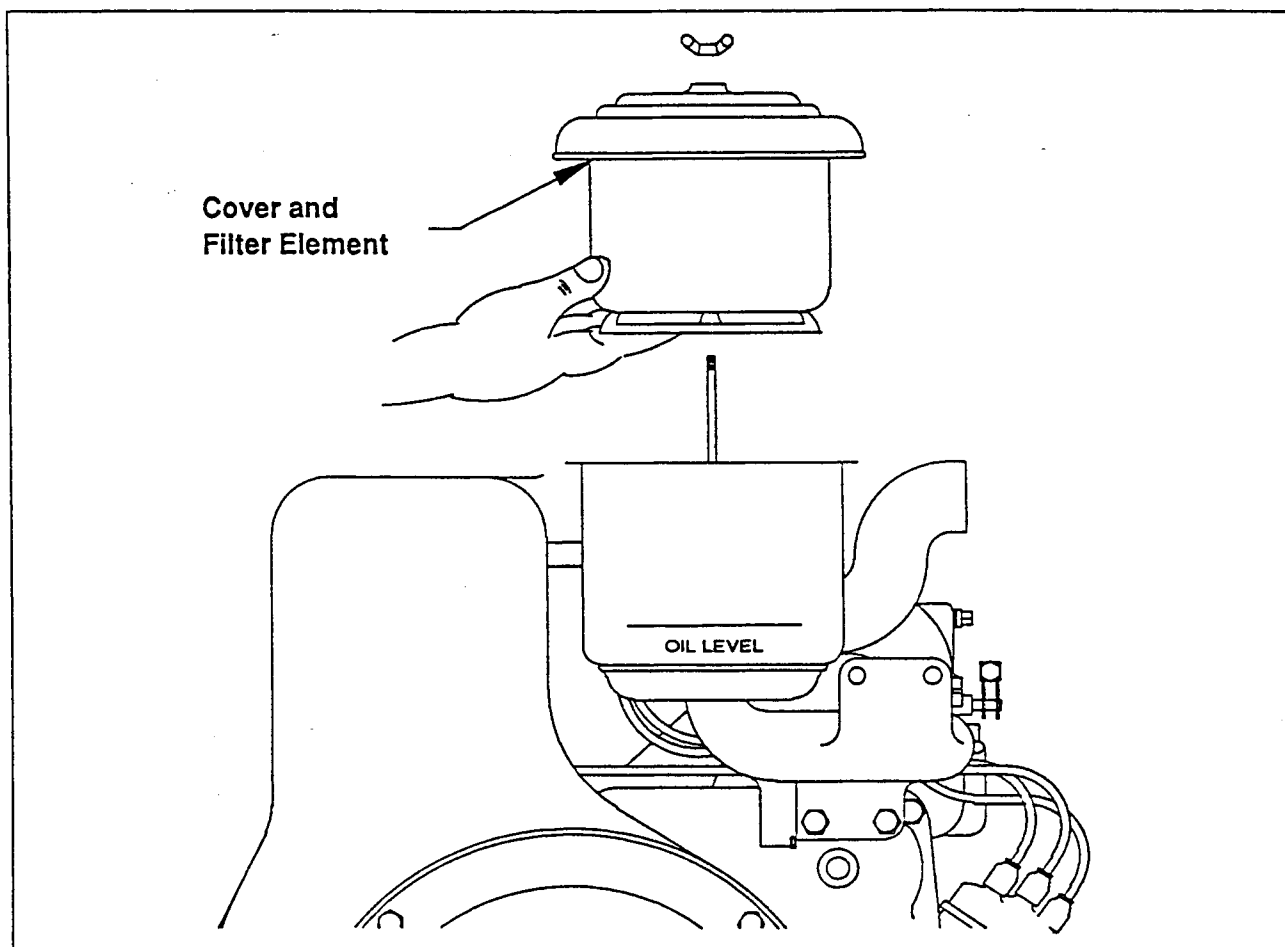


Figure 3 Air cleaner and filter

## Alternator Belt

Visually inspect the alternator belt for cracks and wear. If you must replace the alternator belt, do the following:

- 1** Loosen all three bolts holding the alternator.
- 2** Move the alternator enough to loosen the alternator belt.
- 3** Remove and replace the alternator belt.
- 4** Move the alternator until the belt is tight.

### Caution!

Apply pressure only to the alternator front housing.

- 5** Tighten the top bolt to keep the alternator secure, then tighten the remaining bolts.

**Tip:** To check the tension of the belt, push your thumb down on the longest span of the belt. The alternator belt should not deflect more than 1/2".

## Battery

The battery should be checked for proper electrolyte level and cleaned to maintain its optimum charge. Do not allow the electrolyte level to get low or the battery to remain dirty.

- 1** Check the electrolyte level and fill with distilled water up to the specified correct level.
- 2** Clean the batteries with water. Thoroughly dry the battery surface using dry rags.

### Caution

Do not overfill the battery. If the top of the battery appears wet before you fill or wash it, it is probably due to leaky seals or cell covers. Replace battery.

- 3** Clean the cell posts, connectors and steel tray with water (if mildly dirty) or water and baking soda (if extremely dirty).

**Tip:** Use a ratio of 1 lb. baking soda to 1/2 gallon water, and a stiff brush. Rinse with fresh water.

### Caution

If you attempt to jump-start the engine, use a 12 V battery and ensure that the cables are hooked up properly (polarity is positive to positive, negative to negative).

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## Charging The Battery

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### **Caution**

Disconnect the ground (-) cable from the battery when charging. This can damage the electronic module in the solid-state distributor.

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### **Caution**

Do not use a high amperage boost charger. This can damage the electronic module in the solid-state distributor.

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### **Caution**

Do not reverse the battery cables. Damage to the solid-state distributor may result. Ensure that the BLACK lead goes to the NEGATIVE side of the coil, and the RED lead goes to the POSITIVE side of the coil.

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### **Caution**

Do not operate the engine when the battery is disconnected. This can damage the alternator.

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## Storing The Battery

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Always charge the battery before storing for long periods and recharge every two months.

If the climate is very hot, store the battery in a cool place to extend the shelf life of the battery. Storing the battery during long periods of inactivity or during cold months can cause the battery plates to erode and lose its charge.

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## Brake Hoses and Lines

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Visually inspect the brake hoses and lines for signs of leakage, wear or cracks.

### **Caution!**

Replace any worn or damaged lines or hoses immediately.

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## Carburetor

The carburetor is an up-draft single-venturi design with a 1" SAE barrel and a  $\frac{7}{8}$ " SAE flange. The carburetor has a selective fuel inlet and an idle jet adjustment. The carburetor is balanced and sealed, and has a semi-concentric fuel bowl that allows operation at extreme angles without flooding or starving.

The idle system consists of the following:

- two idle discharge holes
- idle air passage
- idle adjust needle
- idle jet
- fuel pick-up passage

The pick-up passage is connected to this well by a restricted drilling hole at the bottom of the pick-up passage. Fuel travels through the pick-up passage to the idle jet calibration. Fuel enters the air stream after it is atomized and mixed with air in the passage leading to the discharge holes.

The source of air for the mixture originates behind the main venturi. The position of the idle adjusting needle in the pick-up passage controls the idle mixture by varying the amount of suction at the idle jet.

Closing the idle adjusting needle results in a richer mixture by increasing the amount of fuel sucked in (the volume of air remains constant). Opening the idle results in a leaner mixture.

### Caution!

Dirt entering the carburetor is the leading cause of carburetor problems. Be sure to keep the fuel and air filters clean.

## Carburetor Operation

Fuel for the idle mode comes from the idle jet to a well directly below the main discharge jet (see Figure 4).

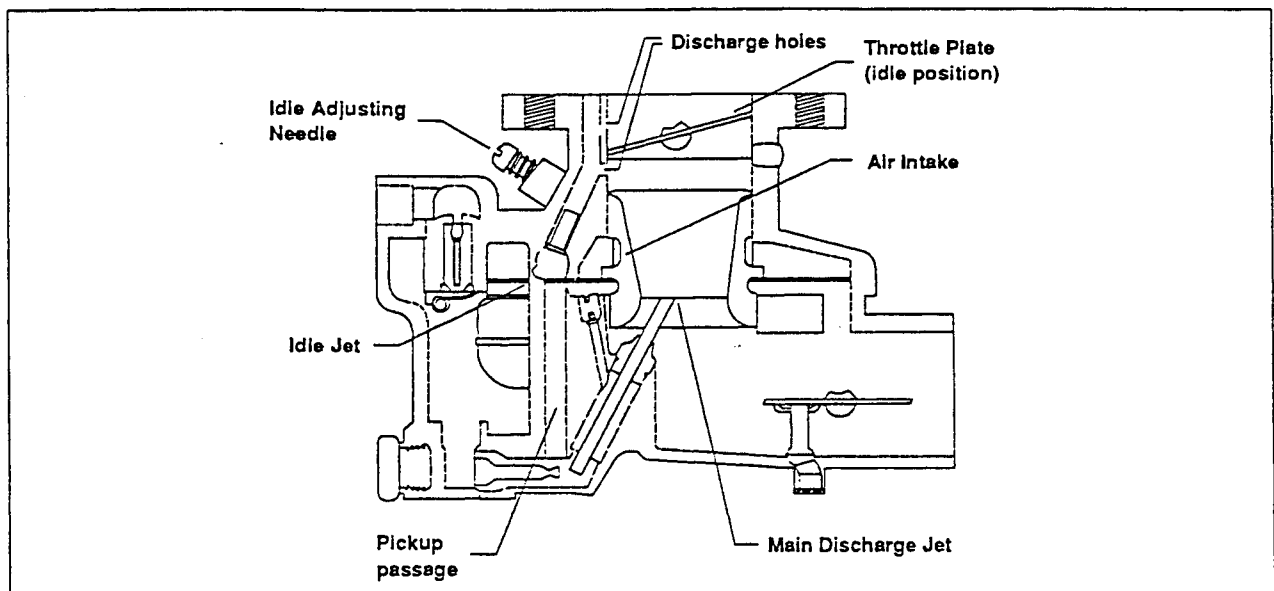


Figure 4 Carburetor operation

## Carburetor Problems

Use the following as a guide to determine the nature of the carburetor problem and the recommended solution.

PROBLEM	PROCEDURE
Float level set too high	Remove bowl
	Invert carburetor
	Set float
Dirt under inlet needle valve	Remove inlet valve
	Clean seat (rinse in mild solvent or clean fuel, then dry with compressed air)
Fuel leaks from carburetor	Remove bowl and clean with compressed air
	Caution: Be careful not to damage float with compressed air
	Replace float if damaged

PROBLEM	PROCEDURE
Engine smokes and runs rich	Clean air filter
	Adjust idle
	Tighten carburetor bowl to body if gasket leaks
	Clean carburetor fuel bowl, idle needle, air channels and idle channels with compressed air if carburetor air vent is plugged
Engine runs lean	Adjust idle
	Clean carburetor fuel bowl and idle needle with compressed air if carburetor idle holes are plugged
	Set float if fuel level in carburetor is too low
	Clean fuel filter if plugged
Engine hard to start	Adjust idle
	Check carburetor drain plug for obstruction
	Clean fuel tank, filter and carburetor if dirty
	Check fuel lines for obstructions
	Test fuel pump
	Check choke valve linkage for proper travel

PROBLEM	PROCEDURE
Governor surges	Check governor linkage for binding
	Replace throttle shaft if worn
	Clean carburetor body and reassemble throttle shaft

## Chaff Screen

Clean the chaff screen if there is excessive dirt, clogging or any object blocking the screen.

**Note:** *The chaff screen is located at the front of the engine near the crankshaft pulley.*

### Caution!

The chaff screen (sometimes called "flywheel screen") must be free of debris for proper operation of the engine.

## Fuel Filter and Hose

To replace the fuel filter and hose, do the following:

- 1 Replace the fuel filter (located near the fuel tank) if it appears clogged.

### Caution!

Be sure that the arrow on the body of the fuel filter points in the direction of the fuel flow.

- 2 Check the fuel hoses for leaks, cracks or loose connections and replace if necessary.

## Fuel Float Level

To adjust the fuel float level, do the following:

- 1 Hold float such that the lever contacts the pin head without pressure.
- 2 Bend the lever close to the float body until the position of the float matches the dimensions shown in Figure 5.

*Tip: Use a pair of long-nose needle pliers.*

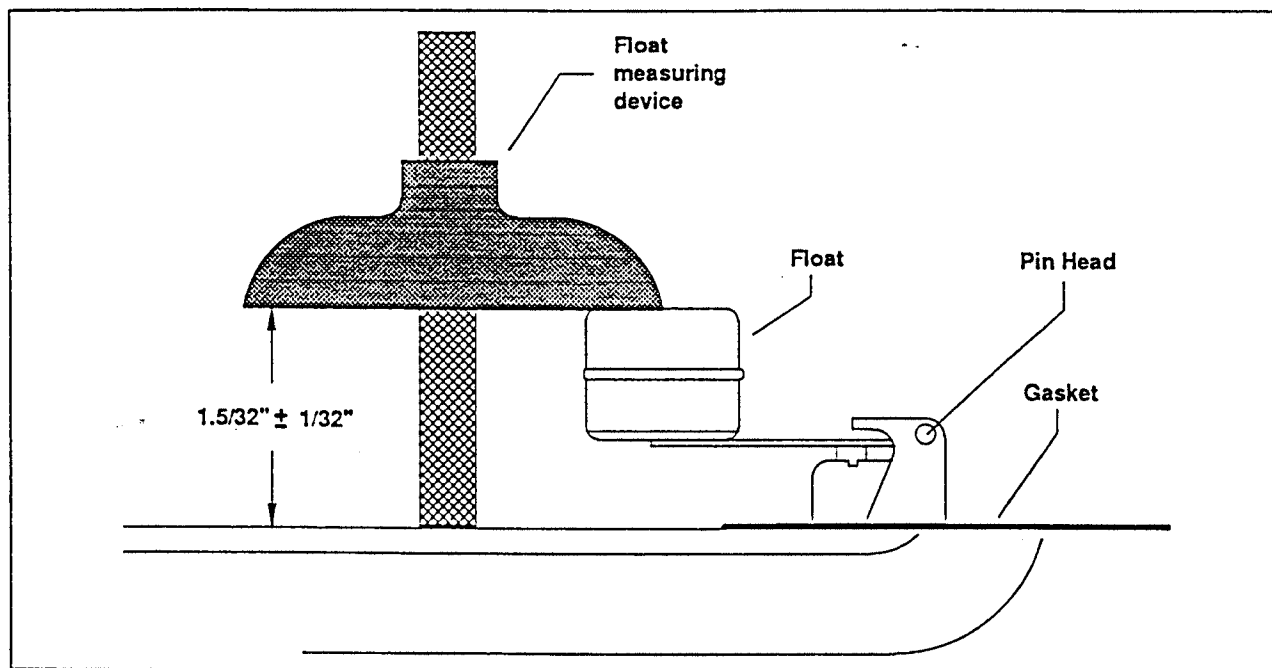


Figure 5 Setting the float

## Fuse Panel

The fuse panel is located behind the light cover and under the dash tray to the right of the instrument panel.

### Caution!

If a fuse blows, it means there is a short circuit somewhere in the system. Always locate and fix the cause of the short circuit before replacing a blown fuse.

To replace a fuse, do the following:

- 1** Remove the light cover.
- 2** Remove the fuse holder from the fuse panel.
- 3** Replace the bad fuse with a good fuse (visually inspect fuse for broken filament).

### Caution!

Never use a fuse having a rating higher than 15 amps. This is considered an UNSAFE PRACTICE and could cause serious damage to the electrical system.

- 4** Replace fuel holder in fuse panel.
- 5** Replace the light cover.

## Idle Adjust

The idle adjustment must be made with the carburetor throttle lever closed.

- 1** Run engine until it is warm.
- 2** Adjust idle speed screw clockwise until the throttle valve opens slightly.
- 3** Turn the idle adjusting needle clockwise until it is lightly seated, then back out  $1\frac{1}{8}$  turns as a preliminary setting.
- 4** Turn adjusting screw in or out as required until the engine runs smooth at low-speed idle (1000 to 1200 RPM).

**Note:** The correct amount of throttle plate opening for the proper low-speed idle is set at the factory using the throttle stop screw (do not adjust). The main metering jet in the carburetor is not adjustable.

## Intake Hose

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Check intake hose for cracks or wear and replace if necessary.

**Note:** *The intake hose is located between the carburetor and air cleaner.*

## Master Cylinder

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Remove the master cylinder cap bolt and check the brake fluid level. The fluid should be within  $\frac{3}{8}$ " to  $\frac{1}{2}$ " from the top of the fill port.

**Note:** *The cylinder cap bolt is accessible from a hole located in the floor decking near the driver's seat.*

### **Caution!**

Use only DOT #5 brake fluid. If the brake fluid becomes contaminated, flush the system and fill the master cylinder with new fluid.

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## Spark Plugs and Cables

To check and replace the spark plugs and cables, do the following:

- 1** Label each cable with tape *before* you remove the cables.

- 2** Remove the cables from each spark plug.

*Tip: Twist the spark plug boot, then lift the boot and cable from the spark plug.*

- 3** Check each spark plug cable for burns, cuts or breaks in the insulation, and check each spark plug boot and nipple on the distributor cap and coil. Replace any damaged cable.

*Note: Be sure you route the cable exactly as it was before you removed it. Check that the nipple is firmly seated in the tower on the distributor cap.*

- 4** Remove any loose dirt from the spark plug area using a wire brush or rag.

- 5** Remove the spark plug using a  $\frac{5}{8}$ " or  $\frac{13}{16}$ " socket.

*Tip: Turn the socket counterclockwise to remove the spark plug.*

### **Caution!**

Be sure to prevent any dirt or debris from falling into the open cylinder.

- 6** Replace the spark plug if it is corroded, cracked, worn or damaged.

- 7** Check and set the spark plug gap using a .030" round wire feeler gauge.

*Tip: The gauge should pass through the gap with a slight drag when the gap is properly set.*

- 8** Place a drop of penetrating oil on the threads of each spark plug, then screw each spark plug in by hand (clockwise) until it is finger tight.

- 9** Tighten each spark plug to 25 or 30 foot-lbs using a torque wrench.

- 10** Reinstall each spark plug cable.

*Note: Be sure that the spark plug boot is firmly attached to the spark plug.*

## **Tires**

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To replace the tires, do the following:

- 1** Check the tires for nicks or grooves and replace if necessary.
- 2** Ensure that the tire is properly seated on the rim.
- 3** If the tires are pneumatic, check for proper inflation (80 psi).



# SECTION 4: SERVICE PROCEDURES

**WARNING!**

Before performing general maintenance on any part of the vehicle, be sure you turn off the ignition, remove the key and disconnect the main battery leads to prevent accidentally starting the engine.

## ACCELERATOR LINKAGE

To adjust the accelerator linkage, do the following (see Figure 6):

- 1** Loosen the accelerator lever clamp on the carburetor.
- 2** Pull the governor control arm toward the air cleaner until the governor control arm stops, then secure it.

**Tip:** Use a wire tie strap to secure the governor control arm.

**Note:** The governor control arm must be in the full forward position.

- 3** Rotate the accelerator lever clamp clockwise until it is snug against the accelerator lever, then tighten the accelerator lever clamp screw.

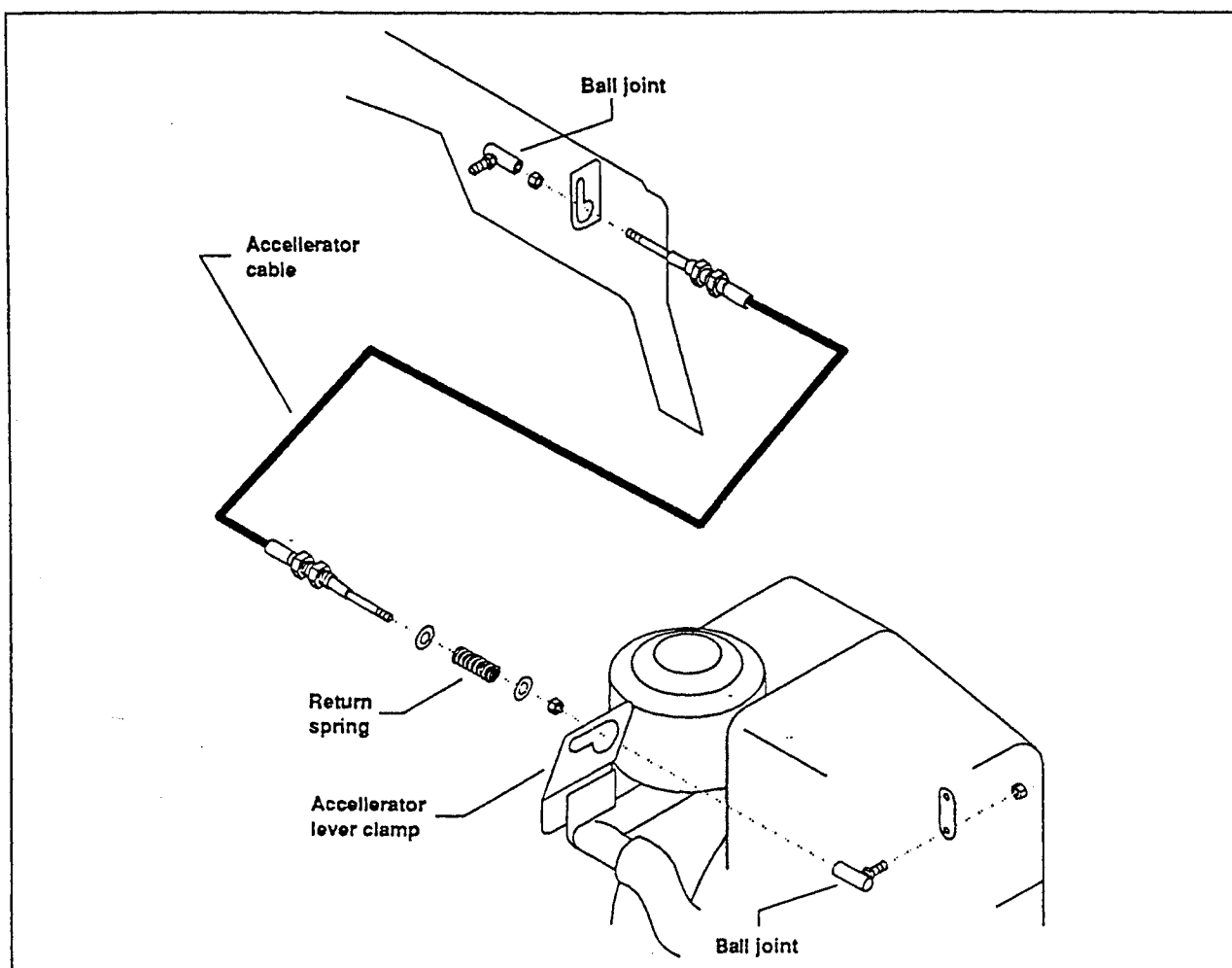


Figure 6 Adjusting the accelerator linkage

- 4** Release the governor control arm. The accelerator lever should not move.
- 5** Slowly depress the accelerator pedal. The accelerator lever clamp should move with the accelerator lever in a clockwise direction. When you reach the end of the pedal travel, the accelerator lever clamp should stop and the accelerator lever should move freely away from the accelerator lever clamp.
- 6** Slowly release the accelerator pedal. The accelerator lever should contact the accelerator lever clamp and return to its starting position. The governor control arm should return to the full forward position.
- 7** If the accelerator lever does not fully return to its starting position, screw the ball joint (at the carburetor end) further onto the accelerator cable, then readjust (start at step 1).

# ALTERNATOR

In order to prevent damage to the alternator or regulator, please note the following cautions before working on the electrical system:

**Caution!**

- Never reverse battery connections.
- Disconnect battery terminals before working on the electrical system to prevent accidentally reversing the battery connections.
- Disconnect battery cables before connecting a fast charger. A fast charger can destroy the diodes by forcing current in the wrong direction.
- Never use test lamps rated higher than 12 volts to check diode continuity.
- Always connect booster battery cables correctly (positive-to-positive, negative-to-negative) if jump starting the vehicle.
- Never use a fast charger instead of a booster for jump starting the vehicle.
- Never disconnect voltage regulator while engine is running.
- Never operate the alternator on an open circuit. Make sure that all connections within the circuit are clean and tight.

## Checking the Alternator

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- 1** Connect an indicator light between the D+ connector on the alternator and the battery positive. The light should be on.
- 2** Start engine. The light should go out.
- 3** If the light remains on, replace alternator.

## Replacing the Alternator

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To replace the alternator, do the following:

**Note:** *Do not attempt to repair a defective alternator unless you have the specialized tools and training.*

- 1** Disconnect the battery ground cable (from the battery end).
- 2** Label each lead *before* you remove the leads.  
  
**Tip:** *Label the leads as "left", "middle" and "right".*
- 3** Disconnect the leads from the alternator.
- 4** Remove the adjusting arm bolt.
- 5** Remove the alternator through bolt.
- 6** Remove the alternator belt from the alternator pulley and lower the alternator.
- 7** Remove the alternator from the vehicle.
- 8** Install a new alternator.
- 9** Reconnect each lead to the alternator according to your labels.
- 10** Replace the alternator belt.
- 11** Replace the alternator through bolt.
- 12** Replace the adjusting arm bolt.
- 13** Reconnect the battery ground lead.

# BRAKE SYSTEM

The brake system consists of:

- brake lines
- brake pedal linkage
- front brakes (optional)
- hand brake linkage
- master cylinder
- rear brakes

## Caution!

Do not drive the vehicle if a leak is detected in any part of the hydraulic brake system. The cause of the leak must be repaired immediately.

**Tip:** The location of the leak may indicate which part is defective.

IF:	TRY THIS:
Brakes feel spongy	<ul style="list-style-type: none"> <li>• bleed brake lines</li> <li>• adjust or replace brake shoes</li> <li>• replace master cylinder</li> </ul>
Brake fluid is leaking	<ul style="list-style-type: none"> <li>• replace master cylinder</li> <li>• replace wheel cylinder</li> <li>• repair brake lines</li> </ul>

## Brake Lines

You must bleed the hydraulic brake lines whenever you disconnect or replace any part of the hydraulic system, or when the fluid level is allowed to get too low in the master cylinder.

You bleed the brake lines using one of the following methods:

- manually
- using a brake bleeder

**Note:** Manually bleeding the brake lines requires two people: one to press on the brake pedal, the other to open and close the bleeder valves.

## Manually Bleeding Brake Lines

- 1** Adjust rear drum brakes (see *Rear Brakes* in this section).
- 2** Fill master cylinder to the top with DOT 5 brake fluid.

### Caution!

Be sure you use only DOT 5 brake fluid.

- 3** Loosen the bleeder valve on the rear left wheel.
- 4** Have someone apply brake pedal pressure to force the fluid and air out of the lines.

**Note:** Be sure your assistant pushes the brake pedal all the way down and hold it down until you close the bleeder valve. Releasing the brake pedal before you close the bleeder valve will pull air back into the system.

- 5** Close the bleeder valve.
- 6** Release brake pedal pressure.
- 7** Repeat steps 3 to 6 two more times until air pockets and bubbles stop and a clear stream of brake fluid appears, then close the bleeder valve.
- 8** Refill the master cylinder with fluid and repeat steps 3 to 6 once more to be certain that all air is removed from the system.
- 9** Repeat steps 2 to 8 for the rear right wheel, the front left wheel, and the front right wheel, in that order.
- 10** Add fluid to the master cylinder until the fluid is 1/2" from the top, then replace the master cylinder cover.

## Using a Brake Bleeder

- 11** Adjust brakes (see *Rear Brakes* in this section).
- 12** Fill master cylinder to the top with DOT 5 brake fluid.

### Caution!

Be sure you use only DOT 5 brake fluid.

- 13** Attach brake bleeder to master cylinder.
- 14** Loosen the bleeder valve on the rear left wheel cylinder until air pockets and bubbles stop and a clear stream of brake fluid appears, then close the bleeder valve.
- 15** Repeat the previous step for the rear right wheel, the front left wheel and the front right wheel, in that order.
- 16** Remove brake bleeder.
- 17** Add fluid to master cylinder until the fluid is 1/2" from the top, then replace the master cylinder cover.

## Brake Pedal Linkage

To adjust the brake pedal linkage, do the following (see Figure 7):

- 1** Loosen the jam nut on the clevis until loose.

*Tip: The brake pedal clevis is located under the cab floorboard.*

- 2** Turn the push rod counterclockwise until it contacts the head of the piston on the master cylinder.
- 3** Shorten the push rod by turning clockwise 1 turn until the push rod just clears the head of the piston.
- 4** Tighten the jam nut to the clevis.

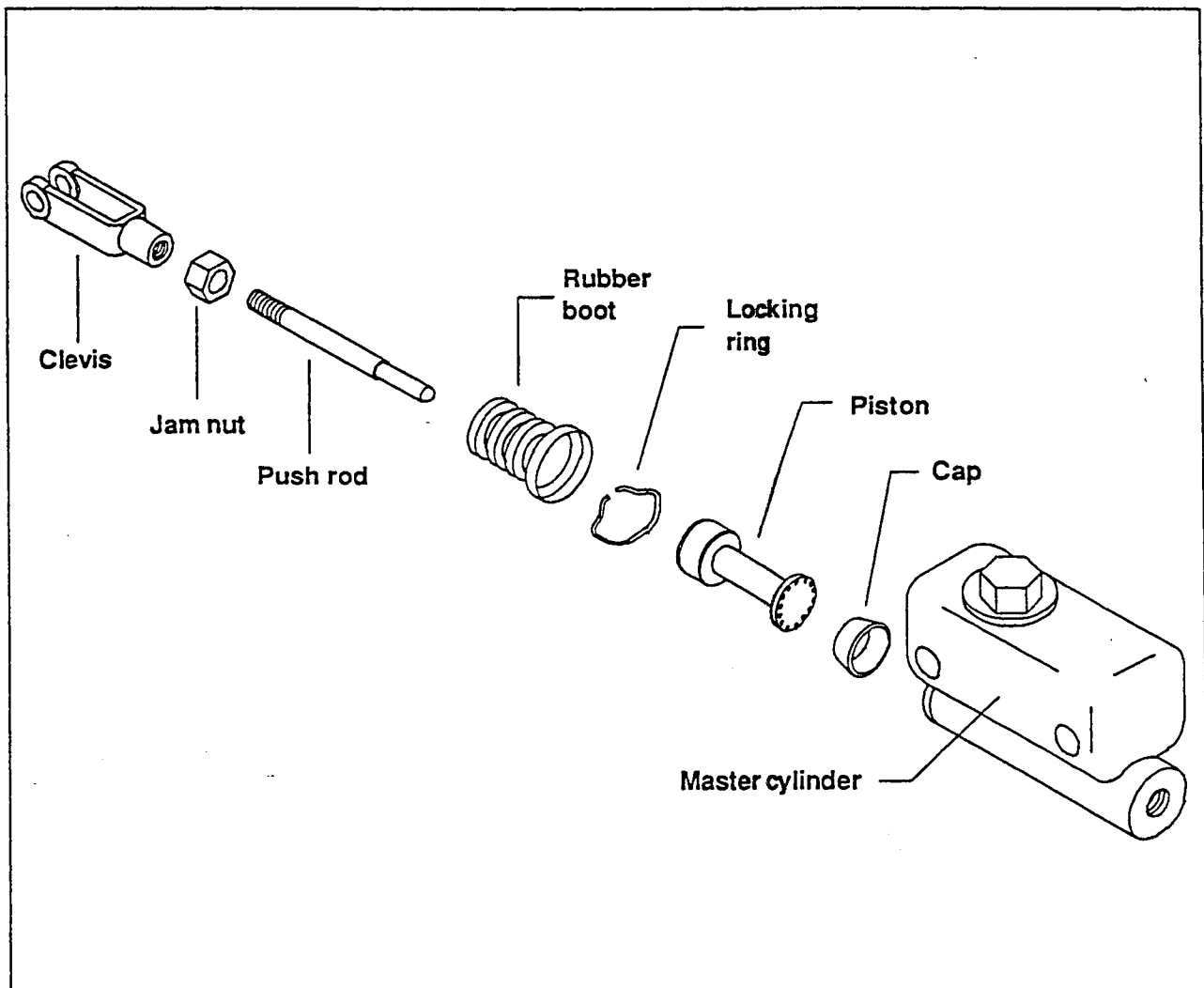


Figure 7 Adjusting the brake pedal linkage



## Front Brakes

Servicing the front brake assembly consists of:

- replacing brake pads, or
- replacing front brake assembly

### Caution!

If the brake cylinder is worn or cracked, or if the piston extends out through the gasket, you must replace the entire brake assembly.

**Note:** The front disc brakes cannot be adjusted in the field.

## Replacing Brake Assembly

To replace the front disc brake assembly, do the following (see Figure 8).

- 1** Raise the vehicle and support it.

### WARNING

Always use jack stands when supporting the vehicle.

- 2** Disconnect brake hose at the caliper.

**Tip:** Cap the hose to prevent brake fluid from leaking.

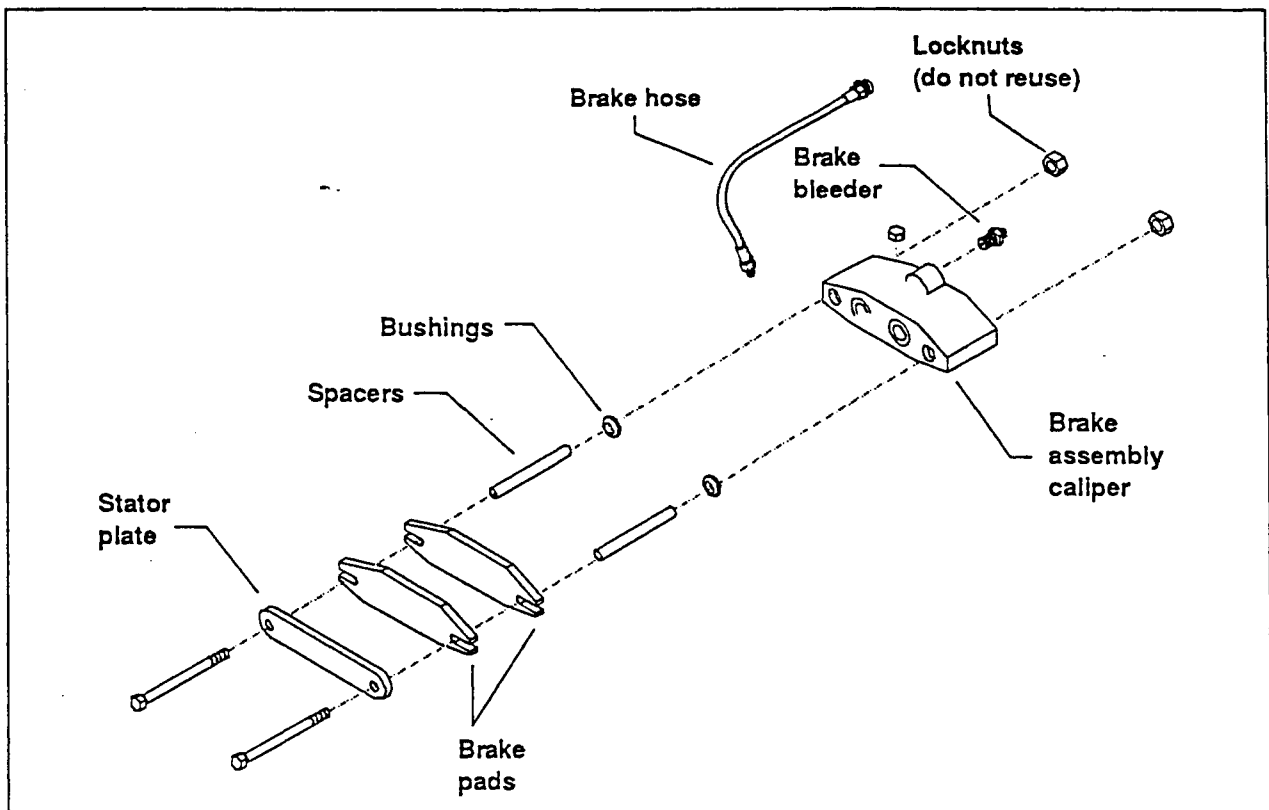


Figure 8 Replacing the front brake assembly

- 3** Remove the two brake body bolts that hold the stator plate, pads and spacers to the brake body.
- 4** Remove brake pads, brake stator plate and spacers.
- 5** Replace the spacers if they are flared or cracked.
- 6** Replace the bushings if they are worn.

**Note:** *The spacers must fit snugly in the bushings while still allowing the spacers to move.*

- 7** Replace the entire brake body if the boots or tops of the pistons are worn or cracked.
- 8** Remount the caliper assembly to the brake bracket.
- 9** Install the brake stator, pads and spacers.
- 10** Tighten both brake body bolts to 12 foot-pounds of torque.

**Note:** *Use new locking nuts for the brake body bolts to maximize locking capability.*

- 11** Test drive the vehicle to ensure that the brakes work correctly.

## Replacing Brake Pads

To replace the front brake pads, do the following:

- 1** Raise the vehicle and support it.

### **WARNING**

**Always use jack stands when supporting the vehicle.**

- 2** Disconnect brake hose at the caliper.

**Tip:** *Cap the hose to prevent brake fluid from leaking.*

- 3** Retract plate against pistons to allow plate replacement.

**Tip:** *If pistons are difficult to retract, loosen bleeder valve and allow fluid to escape, then push the plate against the pistons. Immediately retighten bleeder valve to avoid trapping air.*

- 4** Remove one brake body bolt and spacer, then remove brake pads and stator plate.
- 5** Replace old brake pads with new brake pads.
- 6** Re-install stator plate, pads, spacer and brake body bolt.
- 7** Tighten brake body bolt to 12 foot pounds of torque.
- 8** Turn disc by hand to be sure there is running clearance.
- 9** Lower vehicle and test drive for proper braking.

## Hand Brake Linkage

To adjust the hand brake linkage, do the following (see Figure 9):

**Note:** You must adjust the rear brakes before you adjust the hand brake.

- 1** Place the hand brake in the off position (all the way forward).
- 2** Adjust the nut on the clevis until the tension on the cable is snug and the rear wheels rotate freely.

**Note:** The clevis, which attaches to the bottom of the hand brake, is located under the front wheel well.

- 3** Pull back on the brake handle until it locks. Verify that the wheels are in a locked position. If the brake handle does not lock, adjust the knob on top of the handle.

**Tip:** Rotate the knob clockwise to increase tension; counterclockwise to decrease tension.

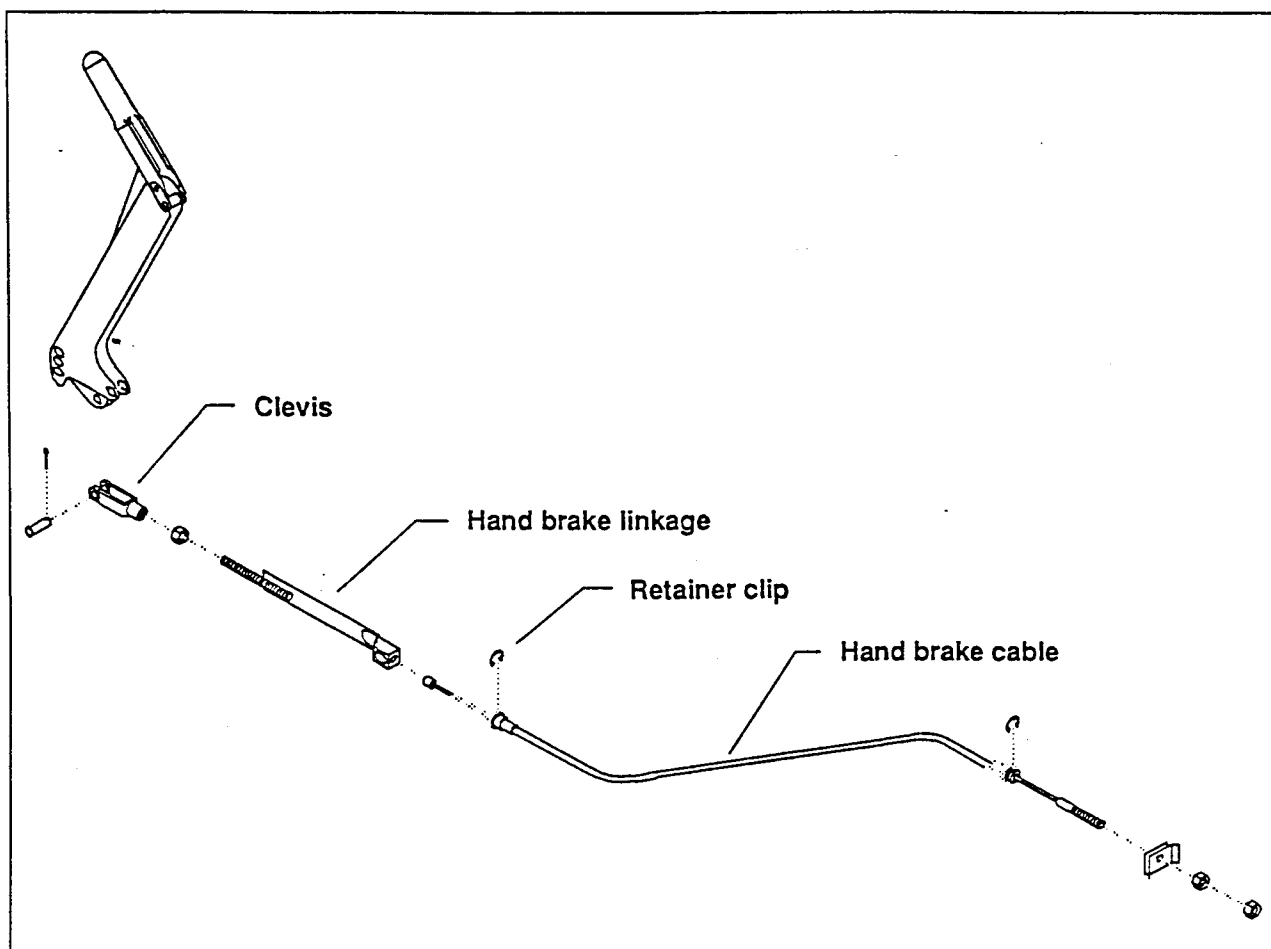


Figure 9 Adjusting the hand brake linkage

## Master Cylinder

To repair or replace the master cylinder, do the following (see Figure 10):

**1** Remove cotter pin, clevis pin and push rod from master cylinder.

**2** Disconnect hydraulic line at the master cylinder.

*Note: There are two lines on a four-wheel brake system.*

**3** Remove two holding bolts and master cylinder from chassis.

**4** Clean outside of master cylinder with brake fluid and wipe dry.

**5** Remove rubber boot and locking ring.

*Note: Make sure that the piston parts do not pop out when removing the locking ring. The piston parts are under spring pressure.*

**6** Remove piston and cap.

**7** Remove any scoring or roughness from inside the cylinder wall with a fine hone.

**8** Coat the new piston and cap with a small amount of *clean* brake fluid.

**9** Install new piston and cap.

*Note: Keep all parts clean when installing.*

**10** Replace locking ring and rubber boot.

**11** Replace master cylinder in chassis and reconnect hydraulic line.

**12** Replace cotter pin, clevis pin and push rod on master cylinder socket.

**13** Loosen jam nut, turn the push rod counterclockwise until it contacts the head of the piston on the master cylinder.

**14** Shorten the push rod by turning clockwise 1 turn until the push rod just clears the head of the piston.

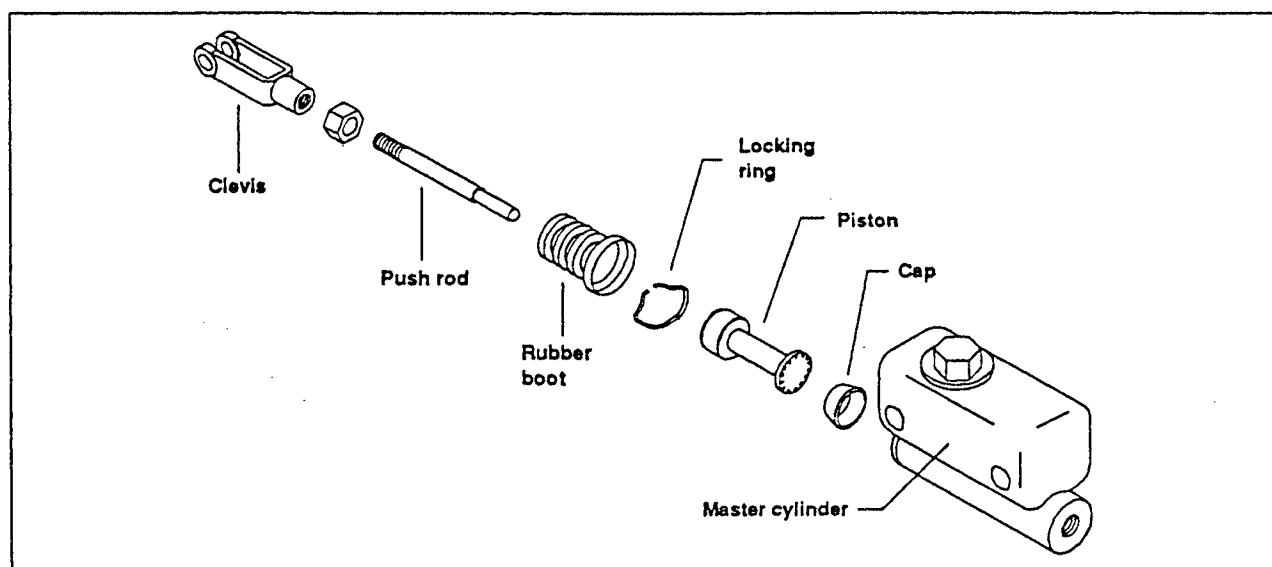


Figure 10 Replacing the master cylinder

## Rear Brakes

Rear drum brakes are available in 11" (standard) and 12" (optional) sizes.

**Note:** *Disc brakes are not available for rear brakes.*

Servicing the rear brake assembly consists of:

- adjusting brakes
- replacing brake assembly
- replacing brake shoes
- replacing wheel cylinders

## Adjusting Brakes

Adjust the rear drum brakes only when you replace the brake assembly or brake shoes, or if you change the length of the adjusting screw (rear drum brakes are self-adjusting during normal operation).

To adjust the rear drum brakes, do the following (see Figure 11):

- 1** Raise the vehicle and support it.
- 2** Remove the rubber plug from the adjusting slot on the backing plate.

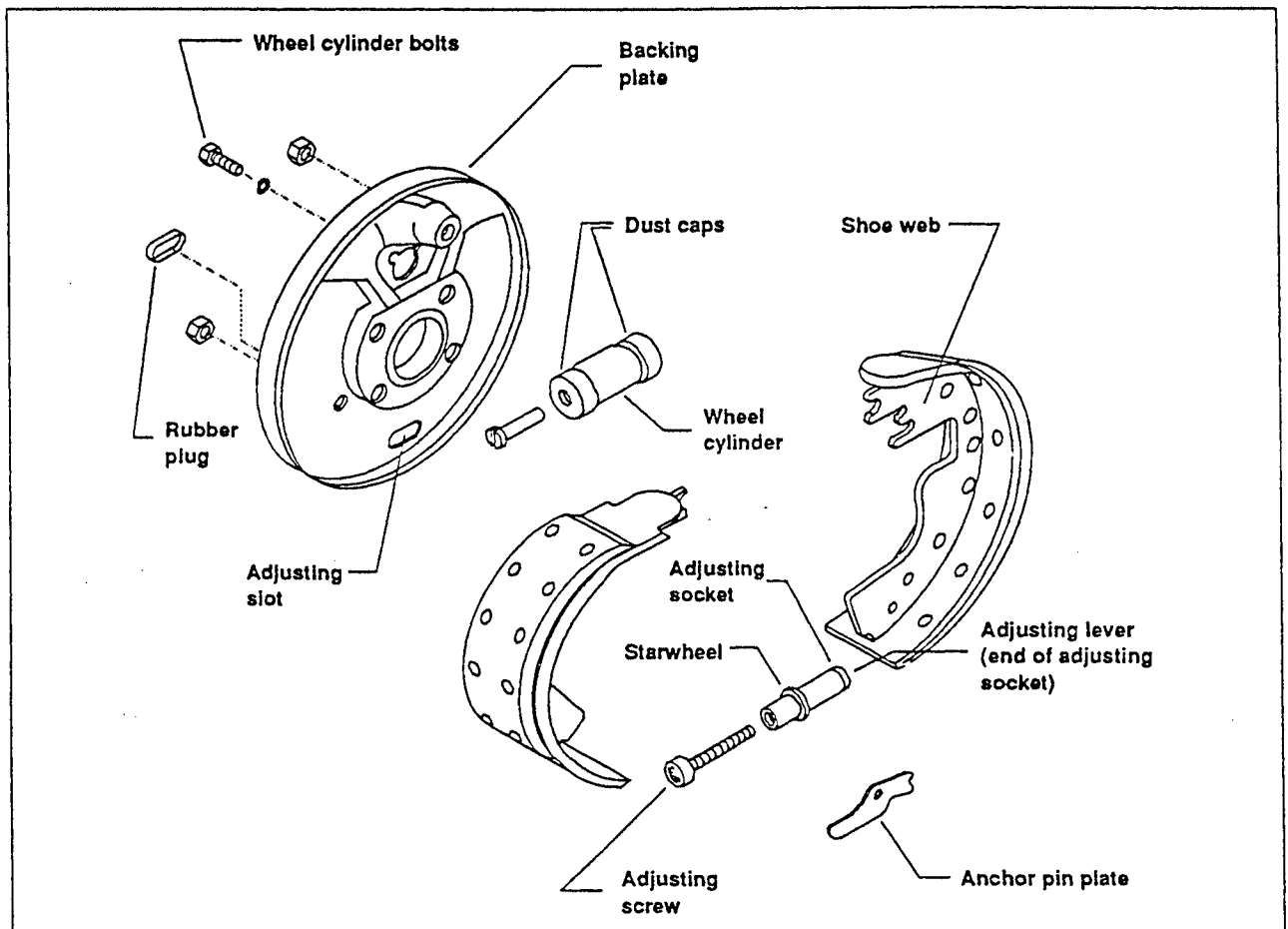


Figure 11 Adjusting rear drum brakes

- 3** Insert a brake adjusting spoon into the adjusting slot and engage the lowest possible tooth on the starwheel.
- 4** Move the end of the brake spoon downward (moves the starwheel up) and expand the adjusting screw until the brakes lock the wheel.
- 5** Insert a small screwdriver into the adjusting slot and push the automatic adjusting lever (on the adjusting socket) out until it is free of the starwheel, then hold the adjusting lever in that position.
- 6** Engage the topmost tooth on the starwheel with the brake adjusting spoon.
- 7** Move the end of the adjusting spoon upward (moves the adjusting screw starwheel downward) and contact the adjusting screw.
- 8** Back off the adjusting screw starwheel until the wheel spins freely with a minimum of drag.

**Note:** Keep track of the number of strokes taken with the brake adjusting spoon.

- 9** Repeat steps 3 to 8 for the other side.

**Note:** The starwheel adjuster must be backed off the same number of strokes as the first side to prevent side to side brake pull.

- 10** Lower the vehicle.
- 11** Test drive the vehicle.
- 12** Equalize the brakes by making several stops while backing up the vehicle.

**Note:** If the front of the vehicle pulls to the right when braking, adjust (back off) the right brake assembly. If the vehicle pulls to the left, adjust the left brake assembly.

---

## Replacing 11" Brake Drum

---

To replace the 11" rear brake drum, do the following:

- 1** Raise the vehicle until the tires clear the floor and install jackstands.
- 2** Remove the wheel and tire assembly.
- 3** Remove the brake drum.

**Note:** If the drum is grooved or worn, it may be necessary to back off the brake shoe adjustment before removing the brake drum.

- 4** Remove any protective coating from the new brake drum using carburetor degreaser.
- 5** Install the new brake drum.
- 6** Replace the wheel and tire assembly.
- 7** Remove the jackstands and lower the vehicle.

## Replacing 11" Brake Shoes

To replace the 11" rear brake shoes, do the following (see Figure 12).

- 1** Raise the vehicle until the tires clear the floor and install jackstands.
- 2** Remove the wheel and tire assembly.
- 3** Remove the brake shoe retracting springs.
- 4** Remove the adjusting cable assembly from the anchor pin, cable guide, adjusting lever and lever spring.
- 5** Remove the brake shoe holddown spring from each shoe.
- 6** Remove the brake shoes and adjusting screw assembly.

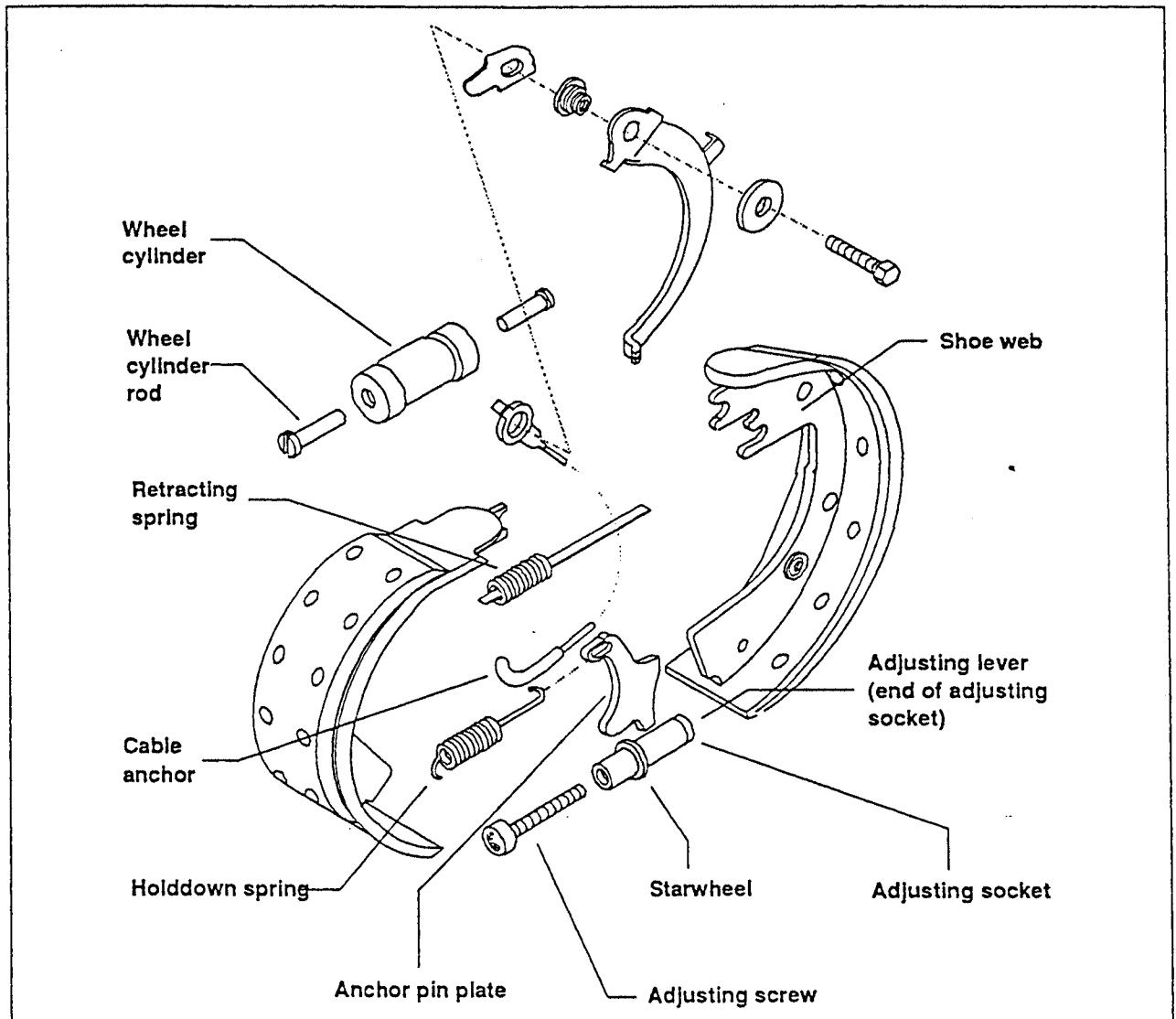


Figure 12 Replacing 11" rear brake shoes

- 7** Disassemble the adjusting screw assembly.
- 8** Clean the ledge pads on the backing plate, then apply a light coat of Hi-Temp grease to the ledge pads (where the brake shoes rub the backing plate).
- 9** Apply Hi-Temp grease to the adjusting screw assembly and the holddown and retracting spring contacts on the brake shoes.
- 10** Install the upper retracting spring on the primary and secondary shoes and position the shoe assembly on the backing plate with the wheel cylinder rods in the shoe slots.
- 11** Install the brake shoe holddown springs.
- 12** Install the brake shoe adjusting screw assembly (keeping the slot in the head of the adjusting screw toward the primary shoe).
- 13** Install the lower retracting spring, adjusting lever spring and adjusting lever assembly.
- 14** Connect the adjusting cable to the adjusting lever.
- 15** Position the cable in the cable guide and install the cable anchor fitting on the anchor pin.
- 16** Install the adjusting screw assemblies in the same locations from which they were removed.

*Tip: Be sure to install each adjusting screw and pivot nut on the correct side of the vehicle. The adjusting screw is marked with an "R" (right) or an "L" (left) to indicate the correct side for installation. The pivot nut has two (2) lines machined around the body of the nut to indicate the right side. The left side pivot nut has only one line.*

- 17** Install the hand brake assembly in the anchor pin and secure with the retainer nut behind the backing plate.
- 18** Adjust the brakes before installing the brake drums and wheels.
- 19** Install the brake drums and wheels.
- 20** Lower the vehicle and road test the brakes.

*Note: New brakes may pull to one side or the other before they are seated. If the brakes continue to pull or braking seems erratic, readjust the brakes.*



---

## Replacing 12" Brake Drum

---

To replace the 12" rear brake drum, do the following:

- 1** Raise the vehicle until the tires clear the floor and install jackstands.
- 2** Remove the wheel and tire assembly.
- 3** Loosen the rear brake shoe adjustment.
- 4** Remove the rear axle retaining bolts, lockwashers, axle shaft and gasket.
- 5** Remove the wheel bearing locknut, lockwasher and adjusting nut.
- 6** Remove the hub and drum assembly from the axle.
- 7** Remove the brake drum to hub retaining screws, bolts, or bolts and nuts.
- 8** Remove brake drum from hub.
- 9** Place the new drum on the hub and attach it to the hub with the attaching nuts and bolts.
- 10** Place the hub and drum assembly on the axle and start the adjusting nut.
- 11** Adjust the wheel bearing nut and install the wheel bearing lockwasher and locknut.
- 12** Install the axle shaft with a new gasket using the axle retaining bolts and lockwashers.
- 13** Install the wheel and tire assembly.
- 14** Adjust brake shoes.
- 15** Remove the jackstands and lower the vehicle.

## Replacing 12" Brake Shoes

To replace the 12" rear drum brake shoes, do the following (see Figure 13):

- 1** Raise the vehicle until the tires clear the floor and install jackstands.
- 2** Remove the wheel and tire assembly.
- 3** Remove the hub and brake drum.
- 4** Install a clamp over the ends of the wheel cylinder to prevent the pistons of the wheel cylinder from coming out and spilling fluid.

**Tip:** Only remove one side at a time. Use the other side as a reference during assembly.

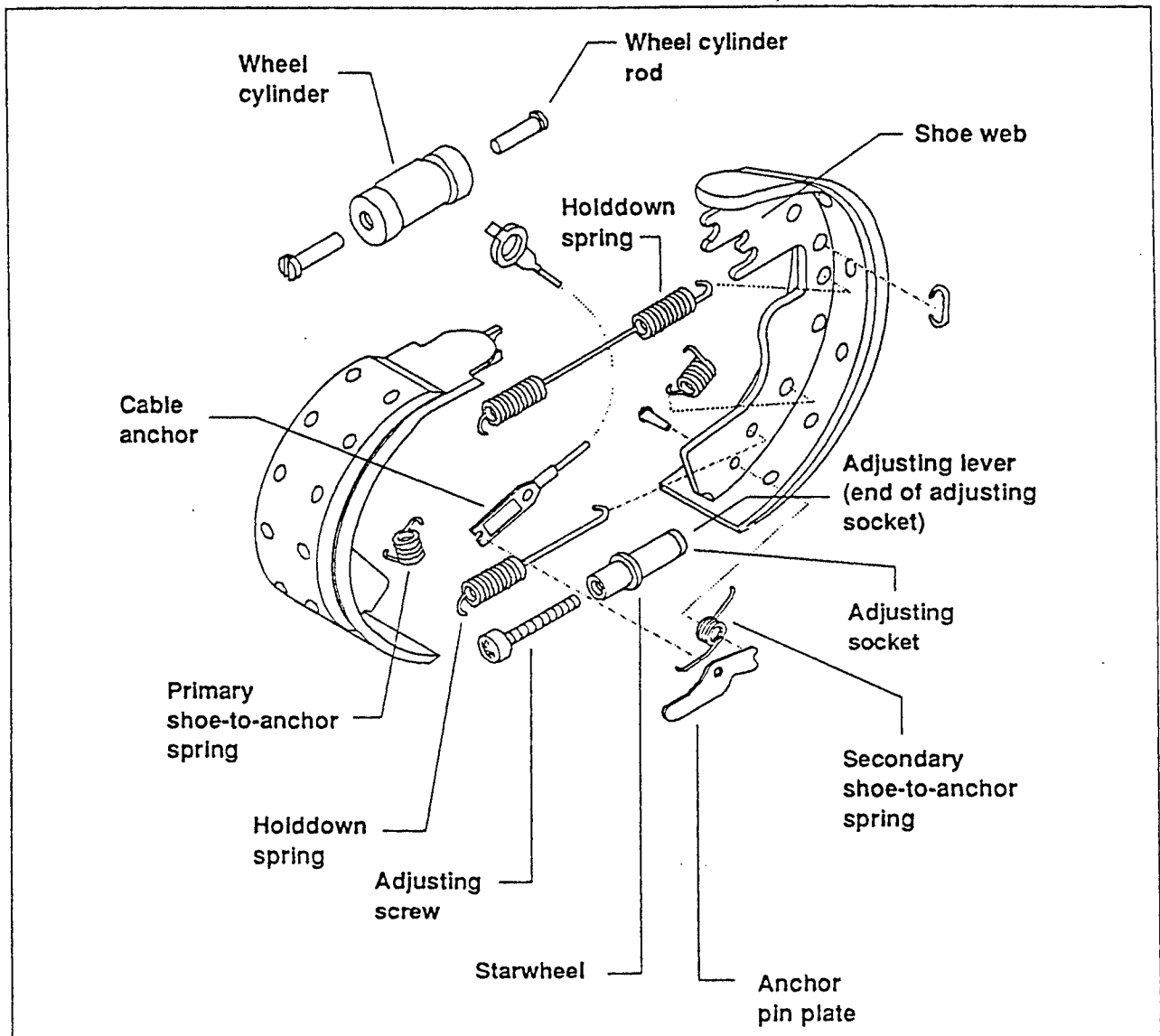


Figure 13 Replacing 12" rear brake shoes

- 5** Compress the brake shoes by pulling the self adjusting lever away from the starwheel adjustment screw, then turn the starwheel up and back until the pivot nut is drawn onto the starwheel as far as possible.
- 6** Pull the adjusting lever, cable and automatic adjuster spring down and toward the rear to remove the pivot hook from the large hole in the secondary shoe web.

**Caution!**

Do not attempt to pry the pivot hook from the hole.

- 7** Remove the automatic adjuster spring and the adjusting lever.
- 8** Remove the secondary shoe-to-anchor spring with a brake tool.
- 9** Remove the primary shoe-to-anchor spring and unhook the cable anchor.
- 10** Remove the anchor pin plate.
- 11** Remove the cable guide from the secondary shoe.
- 12** Note the color of each holddown spring before you remove them.
- 13** Remove the shoe holddown springs, shoes, starwheel adjusting screw, pivot nut, and socket.
- 14** Remove the hand brake link and spring.
- 15** Disconnect the hand brake cable from the hand brake lever.
- 16** Remove the rear brake secondary shoe.
- 17** Remove the retainer clip and spring washer to disassemble the hand brake lever from the shoe.
- 18** Replace the brake shoes with new shoes.
- 19** Reassemble the hand brake lever to the secondary shoe and secure it with the spring washer and retainer clip.
- 20** Apply a light coating of Hi-Temp grease at the points where the brake shoes contact the backing plate.
- 21** Position the brake shoes on the backing plate, and install the holddown spring pins, springs, and spring retainers.
- 22** Install the hand brake link, spring and washer.
- 23** Connect the hand brake cable to the hand brake lever.
- 24** Install the anchor pin plate
- 25** Install the primary shoe-to-anchor spring with the brake tool.

**Tip:** To remove a shoe holddown spring, reach behind the brake backing plate and place one finger on the end of the holddown spring mounting pin. Using a pair of pliers, grasp the washer-type retainer on top of the holddown spring. Push down on the pliers, then rotate the pliers 90 degrees to align the slot in the washer with the head on the spring mounting pin. Remove the holddown spring and washer retainer. Repeat for each spring.

- 26** Install the cable guide on the secondary shoe web.

*Tip: Be sure to fit the flanged holes into the hole in the secondary shoe web.*

- 27** Thread the cable around the cable guide groove.

- 28** Install the secondary shoe-to-anchor spring.

*Tip: Use the long spring. Be sure that the cable end does not bind on the anchor pin. All parts must be flat on the anchor pin.*

- 29** Remove the wheel cylinder piston clamp.

- 30** Apply Hi-Temp grease to the threads and the socket end of the adjusting starwheel screw.

- 31** Turn the adjusting screw into the adjusting pivot nut to the limit of the threads, then back off ½ turn.

- 32** Place the adjusting socket on the screw and install this assembly between the shoe ends, keeping the adjusting screw nearest to the secondary shoe.

- 33** Place the cable hook into the hole in the adjusting lever from the backing plate side.

*Tip: The adjusting levers are stamped with an "R" or an "L" to indicate the right-hand or left-hand brake assembly.*

- 34** Position the hooked end of the adjuster spring in the primary shoe web and connect the loop end of the spring to the adjuster lever hole.

- 35** Pull the adjuster lever, cable and automatic adjuster spring down toward the rear to engage the pivot hook in the large hole in the secondary shoe web.

- 36** Pull the section of the cable between the cable guide and the adjusting lever toward the secondary shoe web just far enough to lift the lever past a tooth on the adjusting screw starwheel. The lever should snap into position behind the next tooth.

- 37** Release the cable. The adjuster spring should return the lever to its original position.

*Note: The return action of the lever turns the adjusting screw starwheel by one tooth. The lever should contact the adjusting screw starwheel one tooth above the centerline of the adjusting screw.*

## Replacing Wheel Cylinders

To replace the rear wheel cylinders, do the following (see Figure 14):

- 1** Remove wheel lugs, wheel and brake drum.
- 2** Unhook springs and remove brake shoes.
- 3** Disconnect hydraulic lines.
- 4** Remove wheel cylinder bolts from backing plate and remove wheel cylinder.
- 5** Remove dust caps and wheel cylinder rods.
- 6** Remove any scoring or roughness from wheel cylinder and rods using a fine hone.
- Note:** Replace wheel cylinder or rod if badly scored or damaged, or if parts do not operate properly.
- 7** Lubricate all new piston parts with brake fluid.
- 8** Adjust brakes.
- 9** Bleed brake lines.

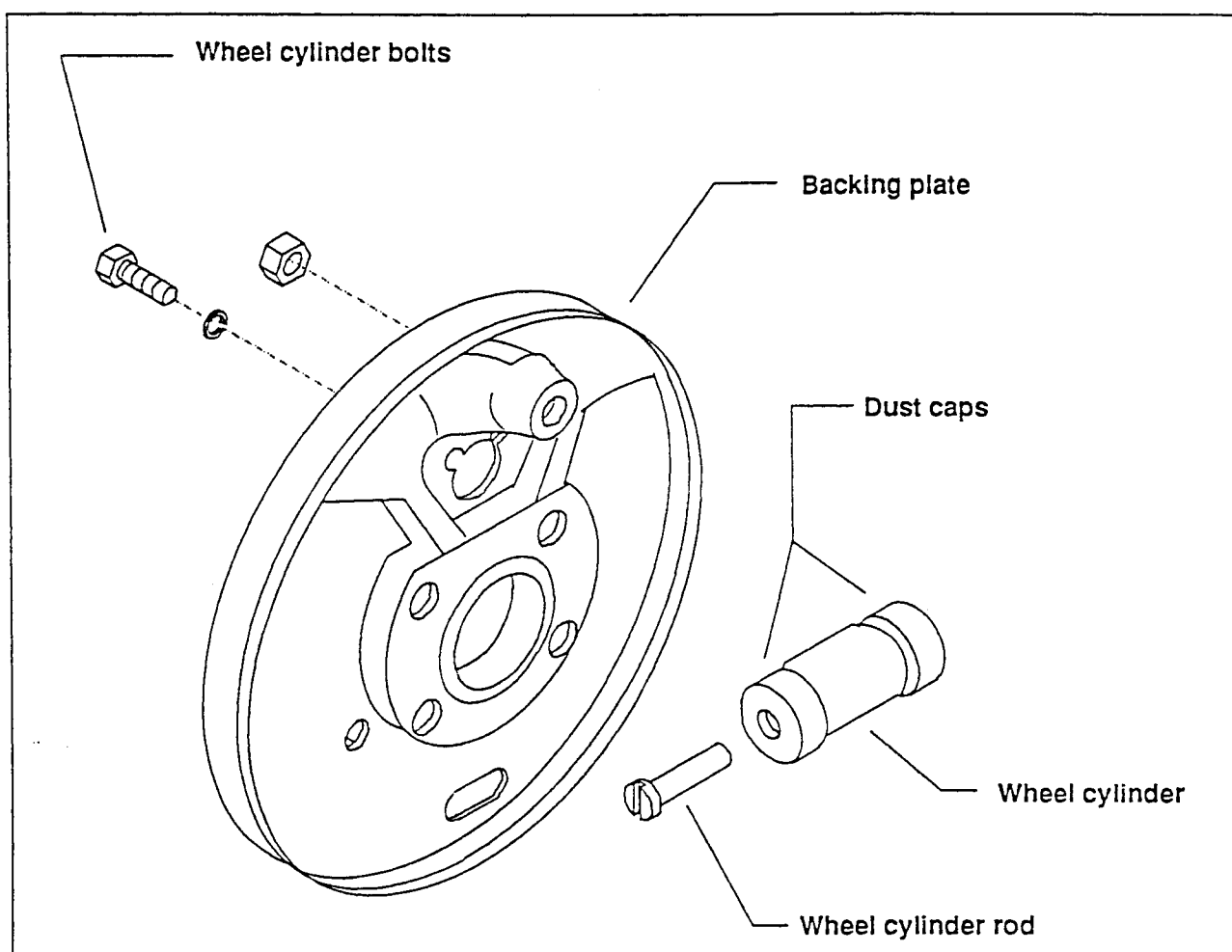


Figure 14 Replacing the rear wheel cylinders

# CHOKE CABLE

To adjust the choke cable, do the following (see Figure 15):

- 1** Push down on the choke knob.
- 2** Verify that the cable sheath is clamped to the bracket clip on the carburetor choke bracket.
- 3** Verify that the choke cable is connected to the choke lever.
- 4** Verify that the choke cable is properly bent.

**Tip:** Bend the choke cable downward for smoother operation or if the choke sticks open.

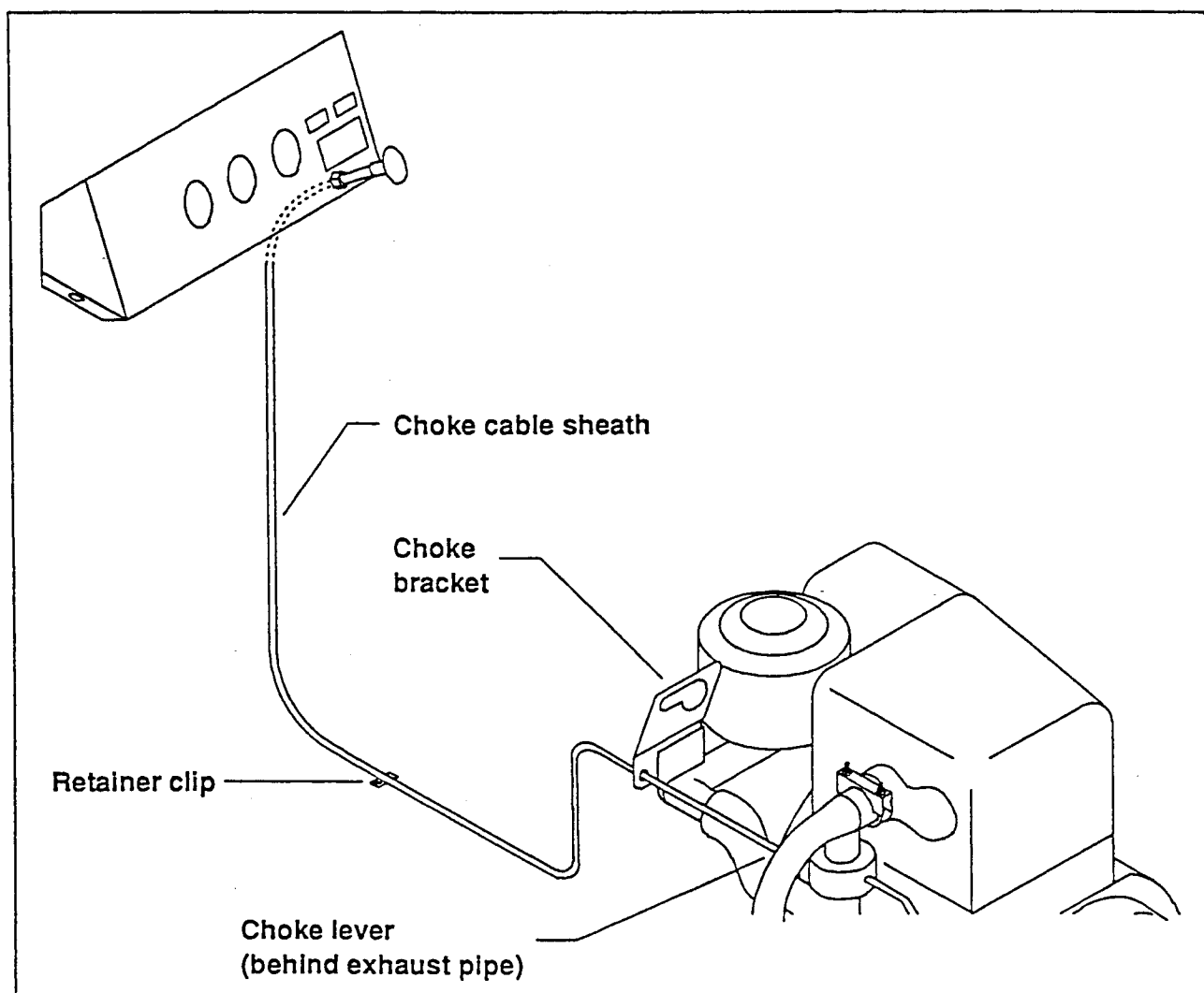


Figure 15 Adjusting the choke cable

# CLUTCH PEDAL LINKAGE

To adjust the clutch pedal linkage, do the following (see Figure 16):

**Tip:** The clevis is on the left side of the engine compartment (near the muffler).

**1** Loosen the jam nut on the clevis of the clutch cable.

**2** Remove the cover plate on the clutch housing.

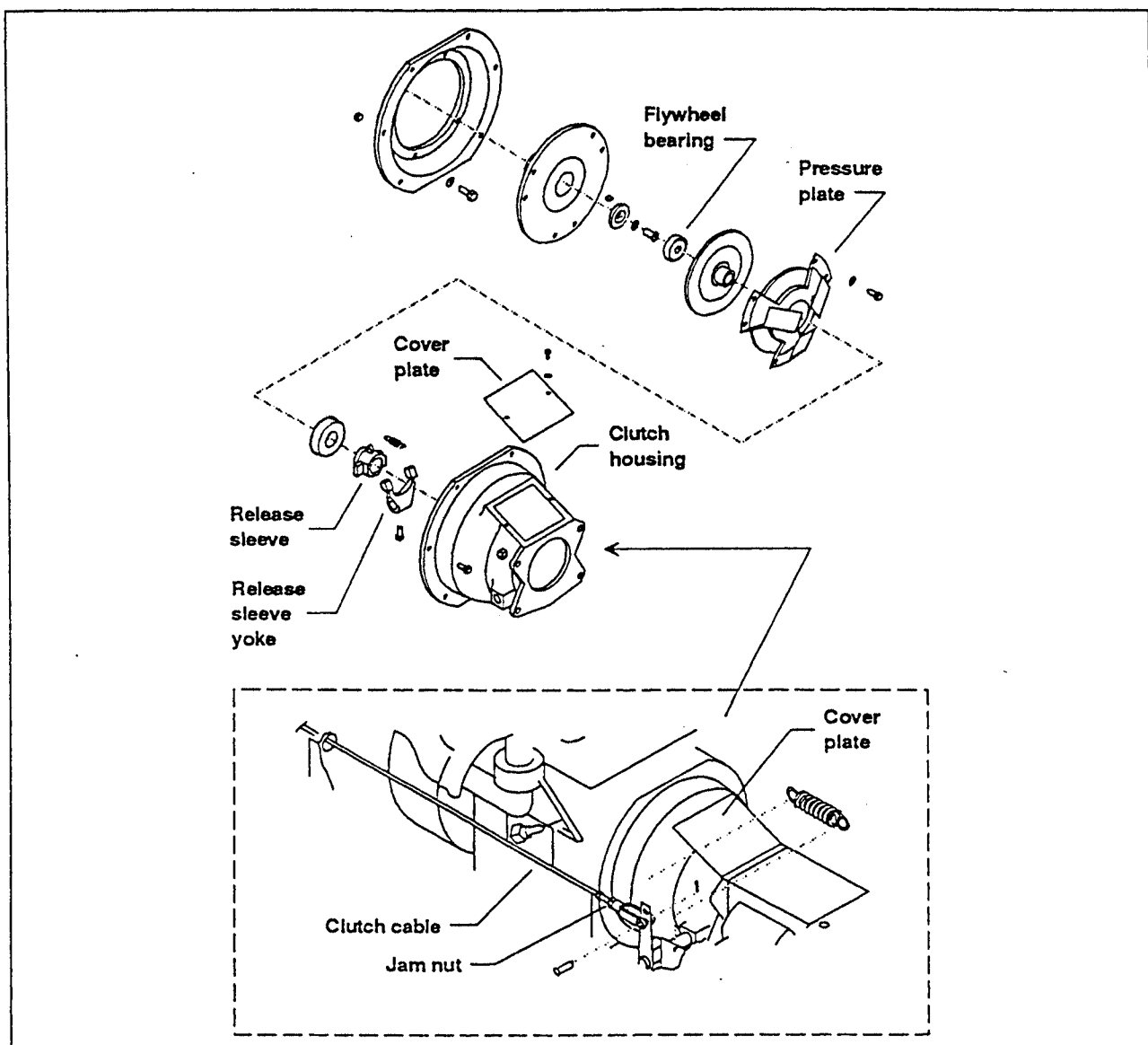


Figure 16 Adjusting the clutch pedal linkage

**3** Adjust the clutch cable such that there is about  $\frac{1}{8}$ " between the face of the clutch throwout bearing and the clutch pressure plate fingers.

**4** Replace the pressure plate if there is no clearance between the throwout bearing and the pressure plate fingers.

**5** Tighten jam nut to the clevis.

**6** Tighten the clutch cable until the release fingers on the sleeve yoke touch the release sleeve tabs (inside the clutch housing).

*Tip: The clutch cable should have minimum tension, but must not be loose.*



# ELECTRICAL SYSTEM

The vehicle's electrical system consists of the following:

- alternator (Section 4)
- battery (Section 3)
- electrical wiring (Section 4)
- fuse panel (Section 4)
- horn (Section 4)
- ignition system (Section 4)
- instrument panel (Section 4)
- spark plugs and cables (Section 3)
- starter motor and solenoid (Section 4)

Service procedures for each item can be found as indicated.

## WARNING

Disconnect the main battery leads and remove the ignition key before working on any part of the vehicle's electrical system.

Figure 17 shows an overall view of the vehicle's electrical system. Figure's 18 to 19 are detailed wiring diagrams.

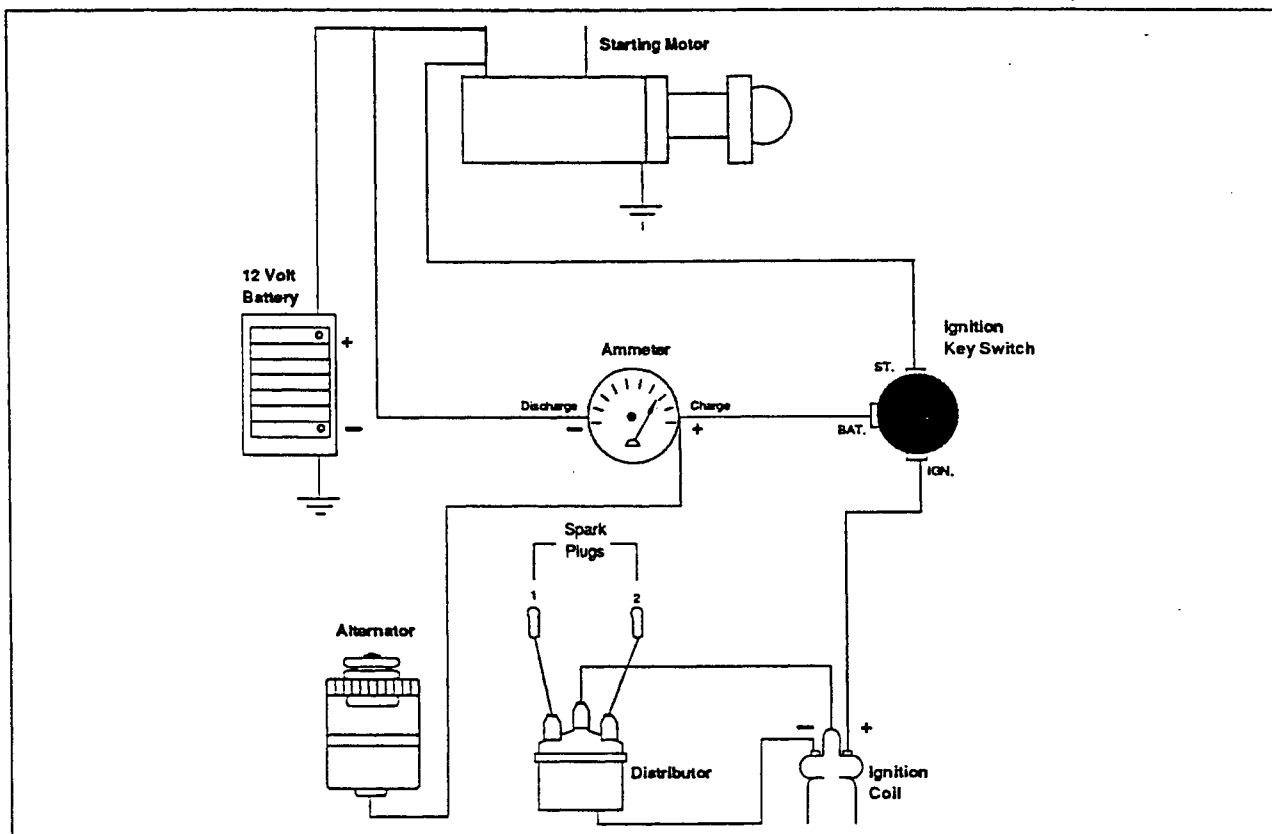
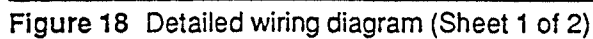
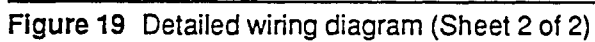


Figure 17 Schematic of vehicle electrical system





## FRONT AXLE

The front axle is designed for rugged, dependable service when properly maintained and lubricated (see Lubrication Chart in Section 3).

The front axle consists of the following:

- axle shaft
- leaf springs
- spindles

- steering worm
- steering worm gear box
- steering arm

The steering worm gear box and steering arm are similar to those used in automobiles and require minimum maintenance (see Figure 20).

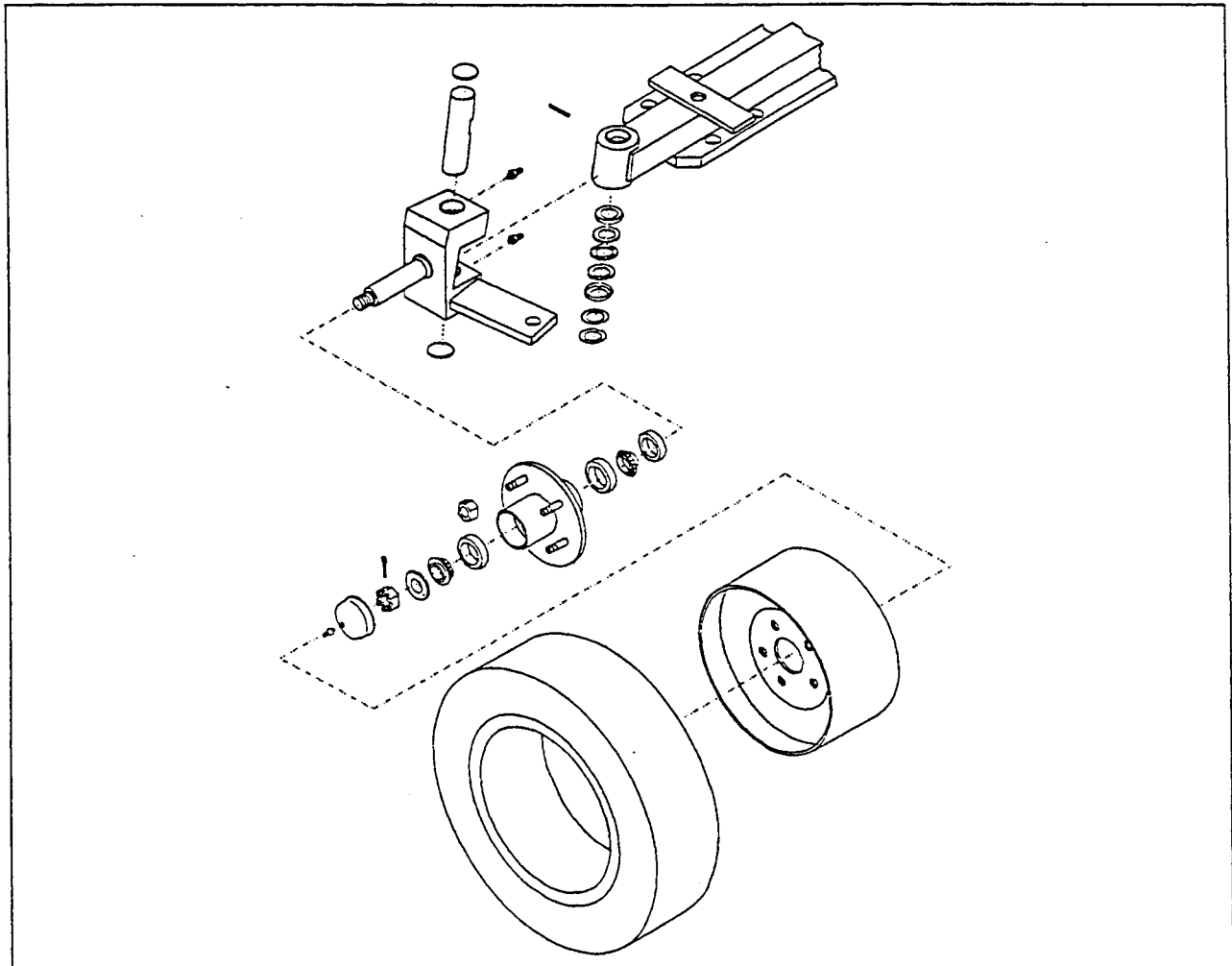


Figure 20 Front axle

## Adjusting Bearings

To clean and adjust the front axle bearings, do the following (see Figure 21):

- 1** Remove tire and wheel.
- 2** Remove dust cap and cotter pin.
- 3** Unscrew spindle nut.
- 4** Remove outer washer and bearing.
- 5** Remove hub assembly from spindle.
- 6** Remove oil seal and inner bearing.
- 7** Clean roller bearings, spindle and wheel hub with a rag. Replace any worn or damaged parts.
- 8** Apply wheel bearing grease to roller bearings.
- 9** Reassemble roller bearings, oil seal, spindle and wheel hub.
- 10** Mount wheel hub, wheel and tire onto spindle.
- 11** Install outer washer, bearing and nut.
- 12** Tighten spindle nut until you barely feel the roller bearing drag as you rotate the hub by hand, then back off the spindle nut about  $\frac{1}{4}$  turn.
- 13** Install cotter pin, dust cap, tire and wheel.

*Note: The hub should now turn freely (no bearing end-play).*

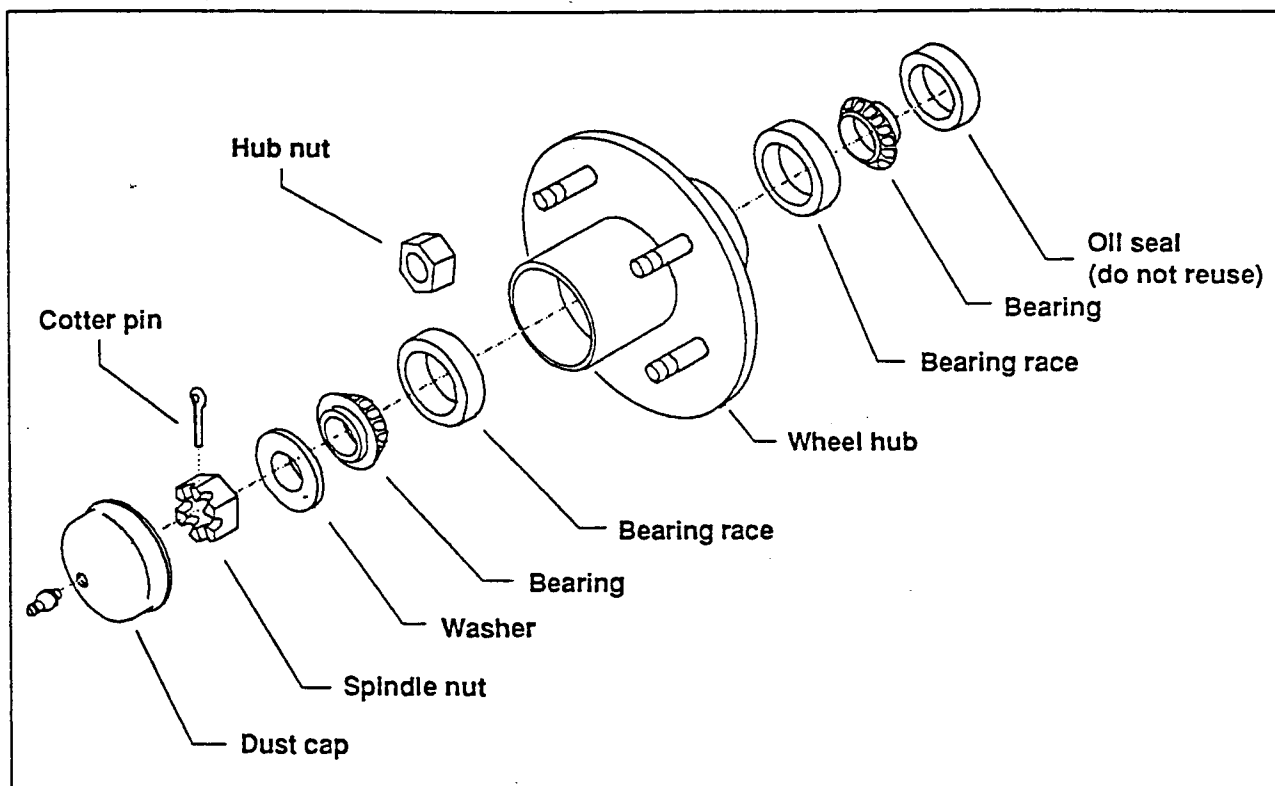


Figure 21 Adjusting the front axle bearings

## Aligning Front End

To align the front end for toe-in, do the following:

**Note:** *The caster and camber are set at the factory and do not require adjustment.*

- 1** Raise the front end of the vehicle.

### **WARNING**

**Always use jack stands when supporting the vehicle.**

- 2** Mark the center of each front tire.

**Tip:** *Hold a white chalk or other marker against the tire tread at its center while rotating the tire.*

- 3** Lower front end.

- 4** Position front wheels straight ahead.

- 5** Measure the distance between the marks on the *back* of the front tire.

- 6** Measure the distance between the marks on the *front* of the front tire. If the rear measurement is more than 0.125" greater than the front measurement, continue with the remaining steps.

- 7** Loosen each tie-rod sleeve clamp until the adjusting sleeve can be turned.

- 8** Adjust the tie-rod sleeve until the distance between the front and rear marks on the front tire are equal.

- 9** Tighten each tie-rod sleeve clamp.

**Note:** *Be careful not to change the position of the adjusting sleeve.*

## Repairing King Pins and Bushings

To repair the king pins and bushings, do the following (see Figure 22):

- 1** Remove wheel, tire, dust cap and cotter pin.
- 2** Unscrew spindle nut.
- 3** Remove outer washer and bearing.
- 4** Remove hub assembly from spindle.
- 5** Disconnect ball joints at knuckle weldment.
- 6** Remove top expansion plugs.
- 7** Install spindle nut to protect the threads.
- 8** Grind off small end of each tapered pin until it is flush with the axle beam.

**Tip:** To remove the expansion plugs, insert a sheet metal screw through the center of each expansion plug and rotate screw until plug backs out of knuckle.

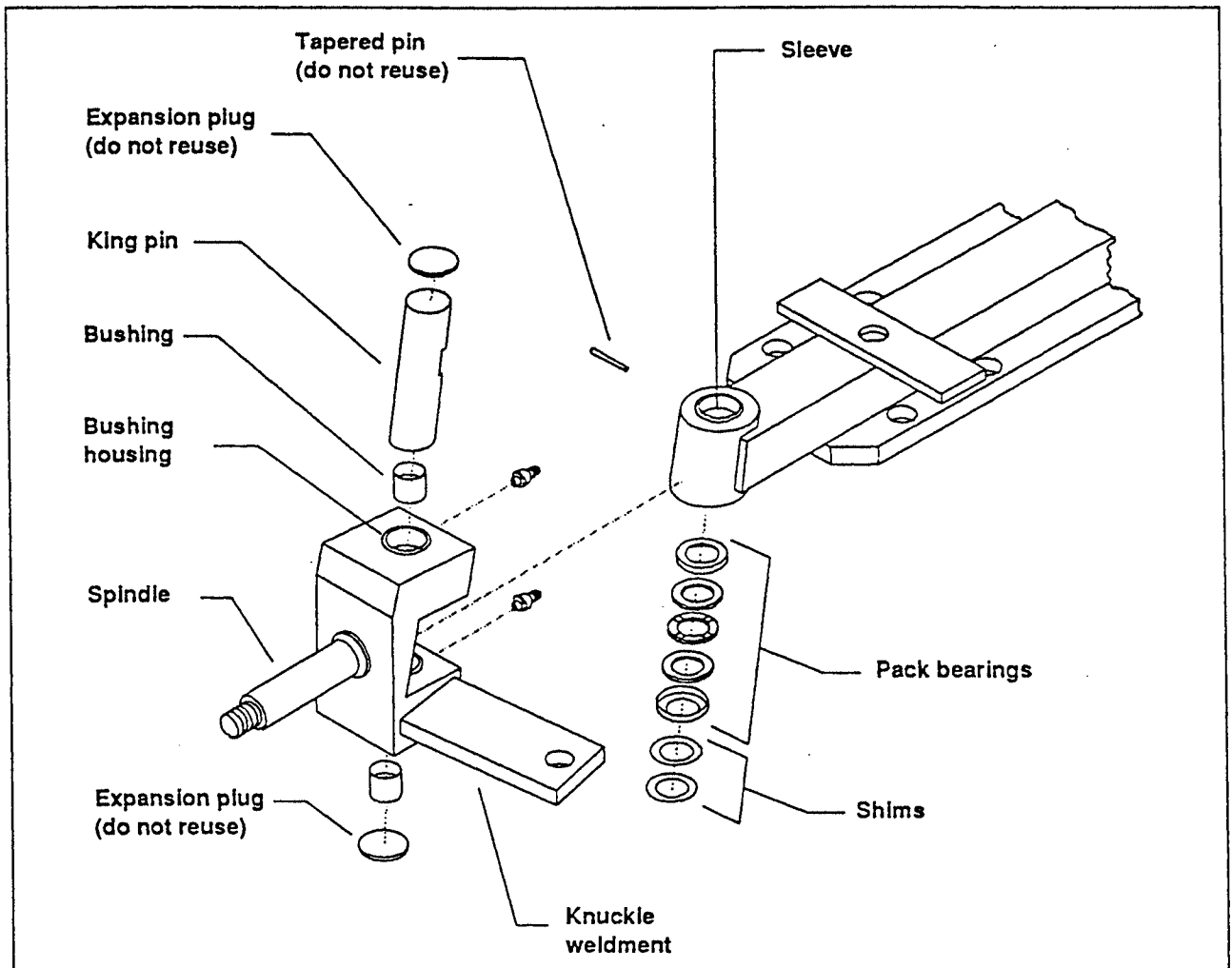


Figure 22 Repairing king pins and bushings

**9** Drive tapered pins out using a punch.

**10** Remove king pin from knuckle weldment.

*Tip: Use a soft rod (bronze or aluminum) to drive the king pin down through the knuckle if necessary.*

**11** Remove knuckle and pack bearing from axle beam.

**12** Press bushings from knuckle.

**13** Clean knuckle, king pin and axle beam with a solvent or degreaser.

**14** Press new bushings into sleeve using a bushing press.

*Tip: If you do not have a bushing press, contact your Taylor-Dunn dealer or any automotive supply house or repair shop for this service.*

**15** Broach the new bushings until the inside diameter is between 0.875" and 0.877".

*Note: Be sure that the bushings are in line with each other, and the grease hole in the bushings aligns with the grease fittings. The bushings should be flush with the inside surfaces of the knuckle.*

**16** Install knuckles and thrust bearing onto knuckle weldment.

**17** Install king pin into knuckle weldment (long end down).

*Note: The notch in the king pin should be towards the inside of the knuckle.*

**18** Install new tapered pins.

**19** Lubricate bushings and king pin using grease fitting.

**20** Install new expansion plugs.

**21** Install hubs and bearings.

**22** Adjust wheel bearings.

**23** Install and tighten ball joints.

**24** Align front end.



## Replacing Ball Joint

To replace the ball joint, do the following (see Figure 23):

- 1** Remove wheel and tire.
- 2** Remove cotter pin and nut from knuckle weldment.
- 3** Disconnect ball joint at knuckle weldment.
- 4** Rap the bolt end of the tapered pin sharply with a soft hammer or wood block to loosen from knuckle weldment.
- 5** Measure position of ball joint.

*Tip: Count the number of threads exposed on the ball joint sleeve.*

- 6** Loosen ball joint clamps.
- 7** Unscrew ball joint from sleeve.

### Caution!

One end of the ball joint sleeve uses a right-hand thread; the other end uses a left-hand thread. Be sure to note which is which when you remove them so you can reinstall them correctly.

- 8** Install new ball joint in same position as the removed ball joint.
- 9** Replace cotter pin.

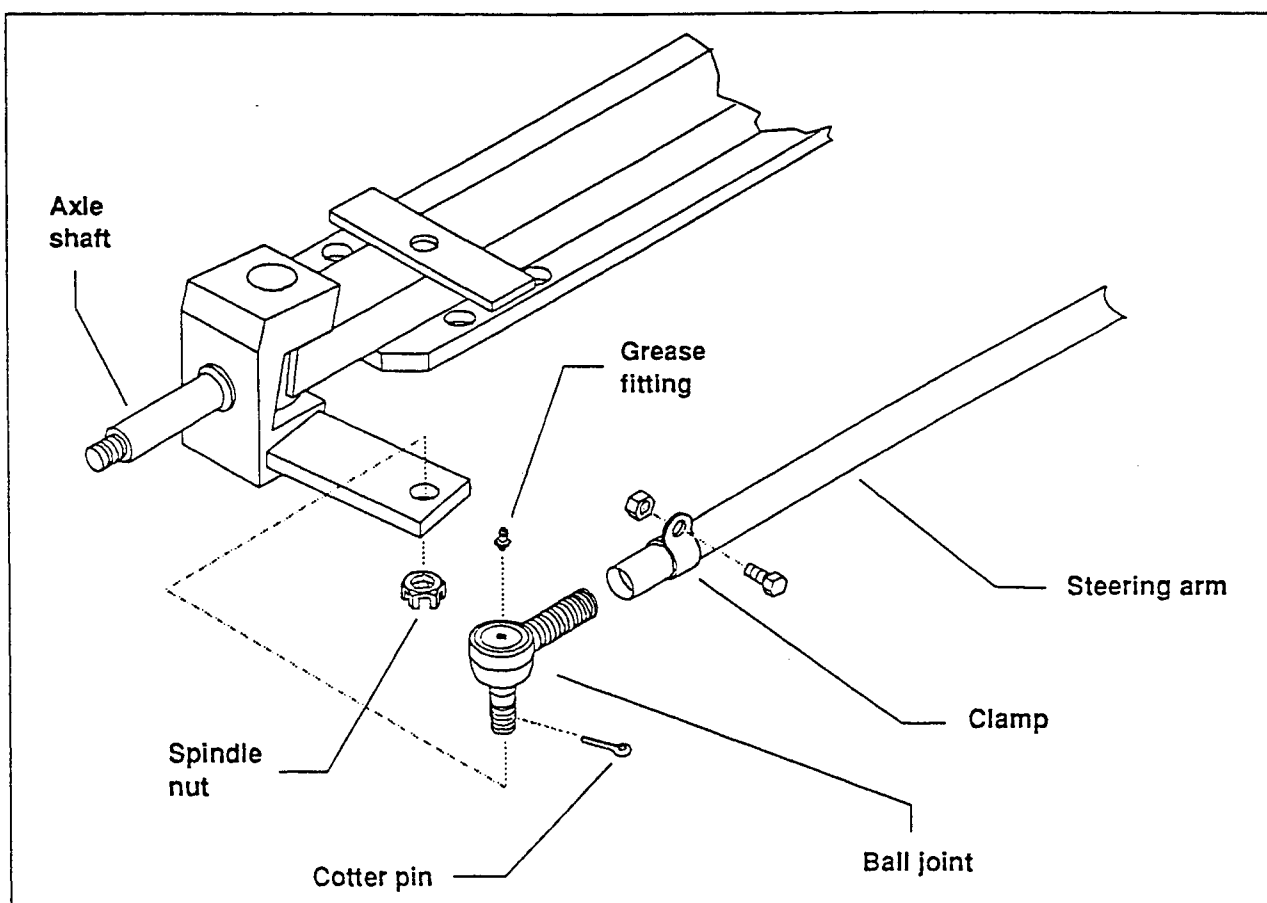


Figure 23 Replacing ball joint

**10** Install tapered pin into knuckle weldment.

**11** Replace spindle nut and tighten securely.

**12** Tighten ball joint into knuckle weldment and make necessary adjustments to center the steering wheel when the tires are aligned.

**Note:** *If the ball joint was part of a new tie rod, check the toe-in alignment and adjust as necessary.*

**13** Tighten both sleeve clamps securely.

**14** Lubricate ball joints through the grease fittings.

## Replacing Steering Worm

To replace the steering worm assembly, do the following (see Figure 24):

- 1** Pry steering wheel cap up to expose locknut.
- 2** Unscrew terminals from horn button.
- 3** Cut terminals from horn button wires.
- 4** Pull wires out through bottom of steering column.
- 5** Remove steering wheel steering arm.  
*Tip: Use wheel puller.*
- 6** Remove mounting bolts from the bottom of the steering assembly.

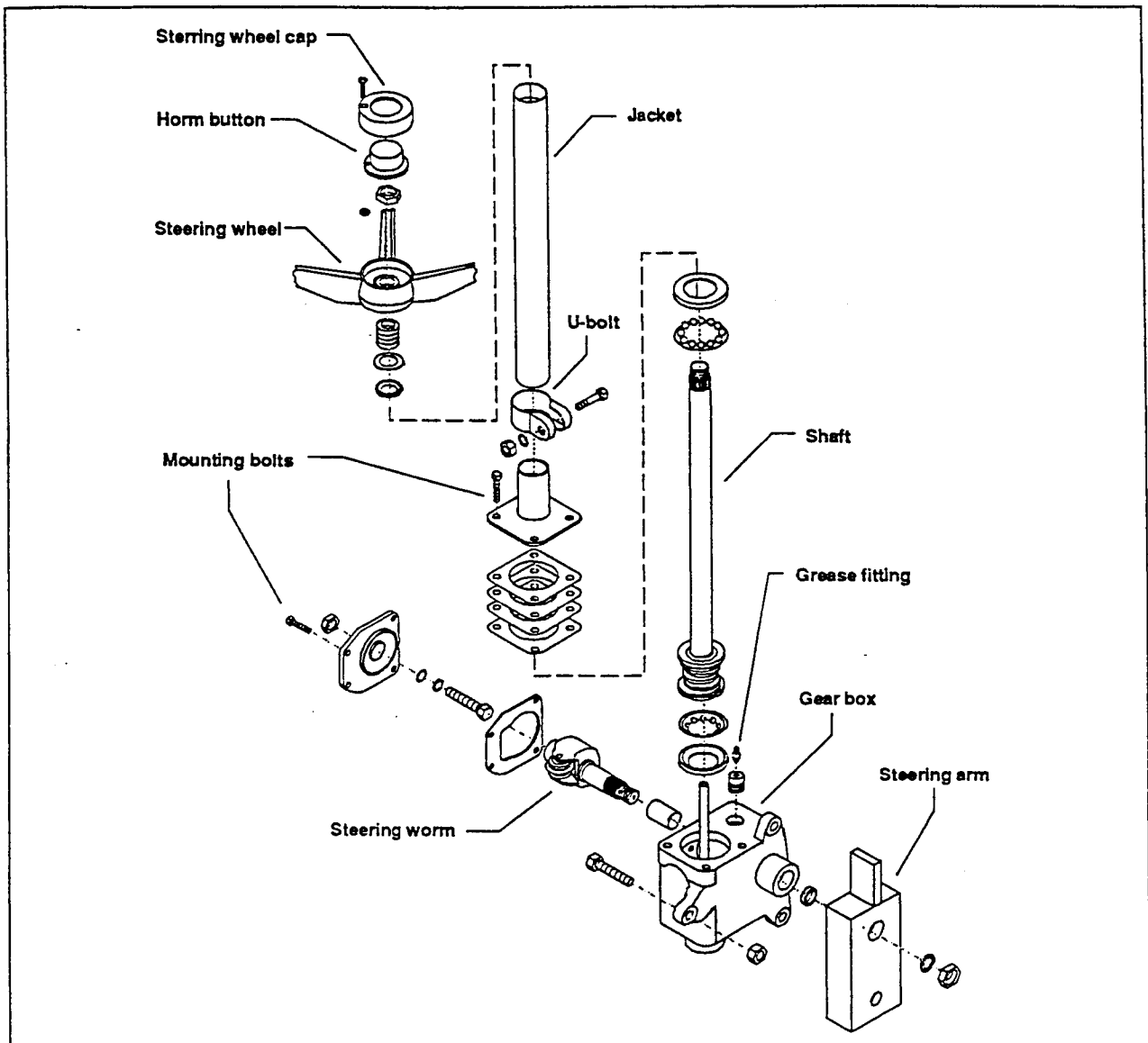


Figure 24 Replacing the steering worm

- 7** Drop steering column out of bottom.
- 8** Install new steering column shaft and worm assembly using the mounting bolts removed earlier.

**Note:** *Be sure to use new locknuts.*

- 9** Align front wheels straight ahead.
- 10** Install steering wheel (but do not tighten yet).
- 11** Center the steering column shaft and worm assembly.

**Tip:** *Turn the wheel full left, then turn right three turns to center the wheels.*

- 12** Install steering arm.
- 13** Tighten the locknut.

**Note:** *The steering mechanism must turn equally in each direction. If not, you must reinstall the steering arm in the proper position.*

- 14** Crimp new ring terminals (75-418-70) onto horn button wires.

**Tip:** *Use a wire crimping tool or pliers. Be sure to strip the wire ends first to make electrical contact with the terminals.*

- 15** Screw terminals to horn button.
- 16** Replace steering wheel cap.
- 17** Lubricate the steering worm through the grease fitting.
- 18** Check the amount of play in the steering wheel. If the play exceeds 2", repeat steps [what?].

# FUEL PUMP

If the engine seems to falter at its maximum allowable speed or when carrying the maximum allowable loads, and the fuel lines are not clogged, the fuel pump may need to be rebuilt. To rebuild the fuel pump, do the following (see Figure 25):

- 1** Disconnect fuel lines from pump.
- 2** Remove fuel pump from engine housing.
- 3** Mark the point where the fuel head is joined to the casting.
- Note:** Use this mark when replacing the fuel head assembly.
- 4** Remove fuel head from casting (held with four screws).
- 5** Note position of valve assemblies inside cavities.

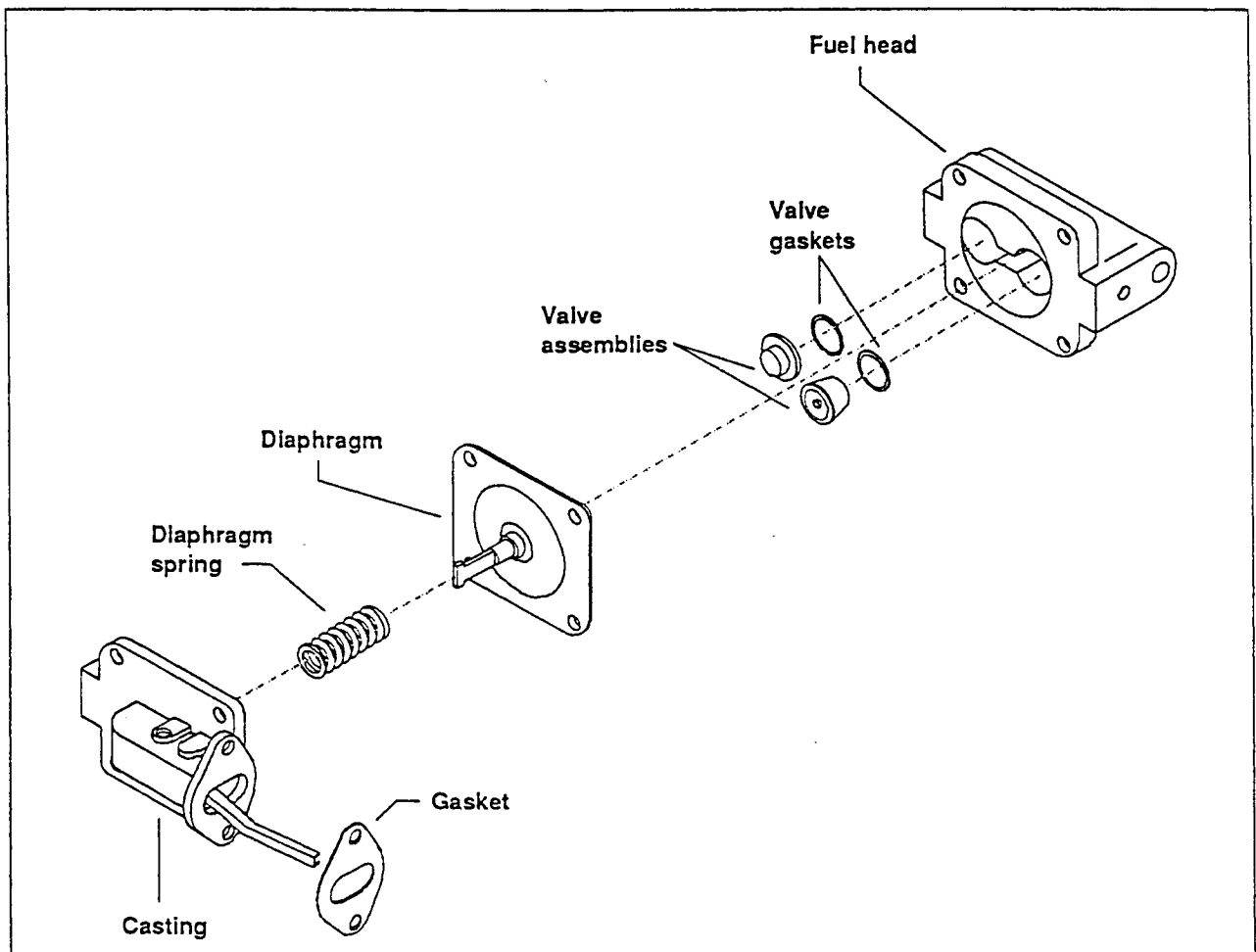


Figure 25 Fuel tank and pump system

**6** Turn fuel head upside down and remove valve assemblies. Discard valve assemblies.

**7** Clean fuel head using kerosene or diesel fuel and a wire brush.

**8** Insert new valve assemblies into cavities in same position as old gaskets.

*Tip: Hold fuel head with diaphragm surface facing up. Press valve assemblies in evenly and stake in place.*

**9** Place fuel head assembly aside.

**10** Unhook the diaphragm from link.

*Tip: Hold the mounting bracket in one hand, with the rocker arm facing your body and your thumb on the end of the link. Compress the diaphragm spring with the heel of your other hand and turn the spring counter-clockwise (to the left) by 90°.*

**11** Clean the mounting bracket using kerosene or diesel fuel and a fine wire brush.

**12** Install a new diaphragm spring in mounting bracket.

**13** Mount the casting to the engine.

*Note: Be sure to use the new flange gasket in the Fuel Pump kit.*

**14** Crank the engine until the diaphragm lays flat on the mounting bracket.

**15** Position the fuel head assembly against the mark (see Step 3) and thread each screw by three turns.

**16** Crank the engine until the diaphragm is pulled down into the mounting bracket at its lowest position.

**17** Tighten the head screws securely.

**18** Reconnect the fuel lines.

# FUEL TANK

To clean the filler cap and drain the fuel tank, do the following (see Figure 26):

## **WARNING**

Do not smoke when removing filler cap. Service the fuel tank in a well ventilated area.

**1** Remove filler cap.

**2** Unscrew flash screen from the filler cap and clean if necessary.

## **Caution!**

Do not leave flash screen off when replacing filler cap.

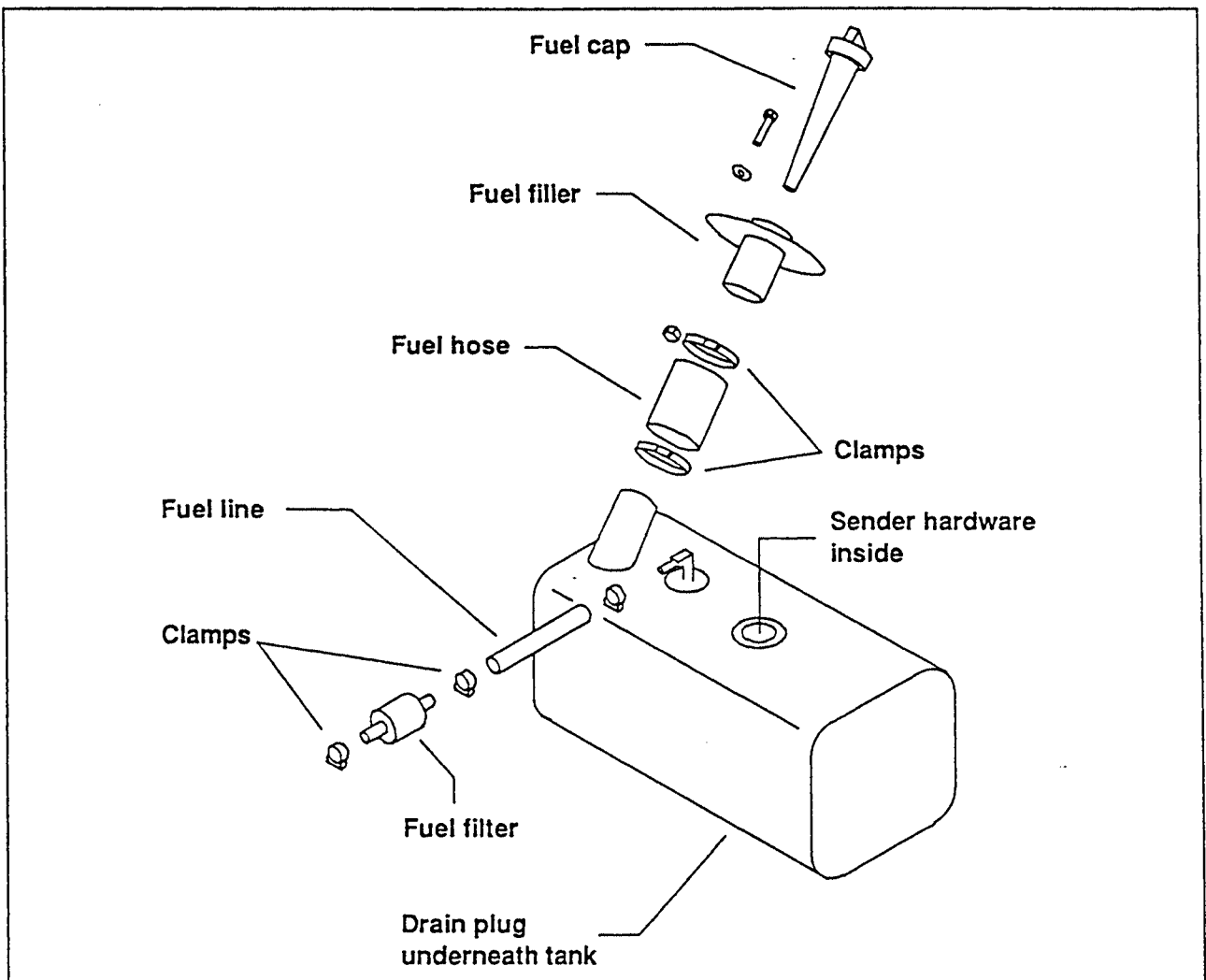


Figure 26 Fuel tank and pump system

- 3** Make sure all fuel level sender connections are tight.
- 4** Loosen the drain plug on the bottom of the tank.
- 5** Drain the fuel through the drain plug opening.

- 6** Replace fuel tank fill hose if it leaks or has cracks.

*Tip: To replace hose, remove the three mounting bolts on fuel filler cap, loosen clamps on hose, then remove hose through filler cap hole.*



# GEAR SHIFT LINKAGE

To adjust the gear shift linkage, do the following (see Figure 27):

- 1** Remove covers from front shifter housing.
- 2** Put shifter in neutral.
- 3** Insert a  $\frac{1}{4}$ " x 4" bolt through the hole on either side of the shifter to lock the vehicle in neutral.
- 4** Remove the shift lever linkage from the shift cross-shaft.

**Note:** Only remove linkage that is connected to the shift cross-shaft. Leave linkage connected to transmission.

- 5** Adjust the two rods such that the linkage is in line with each other and parallel with the edge of the mounting bar.
- 6** Tighten jam nuts.
- 7** Adjust the shift lever linkage until the rods match the cross-shaft tabs.

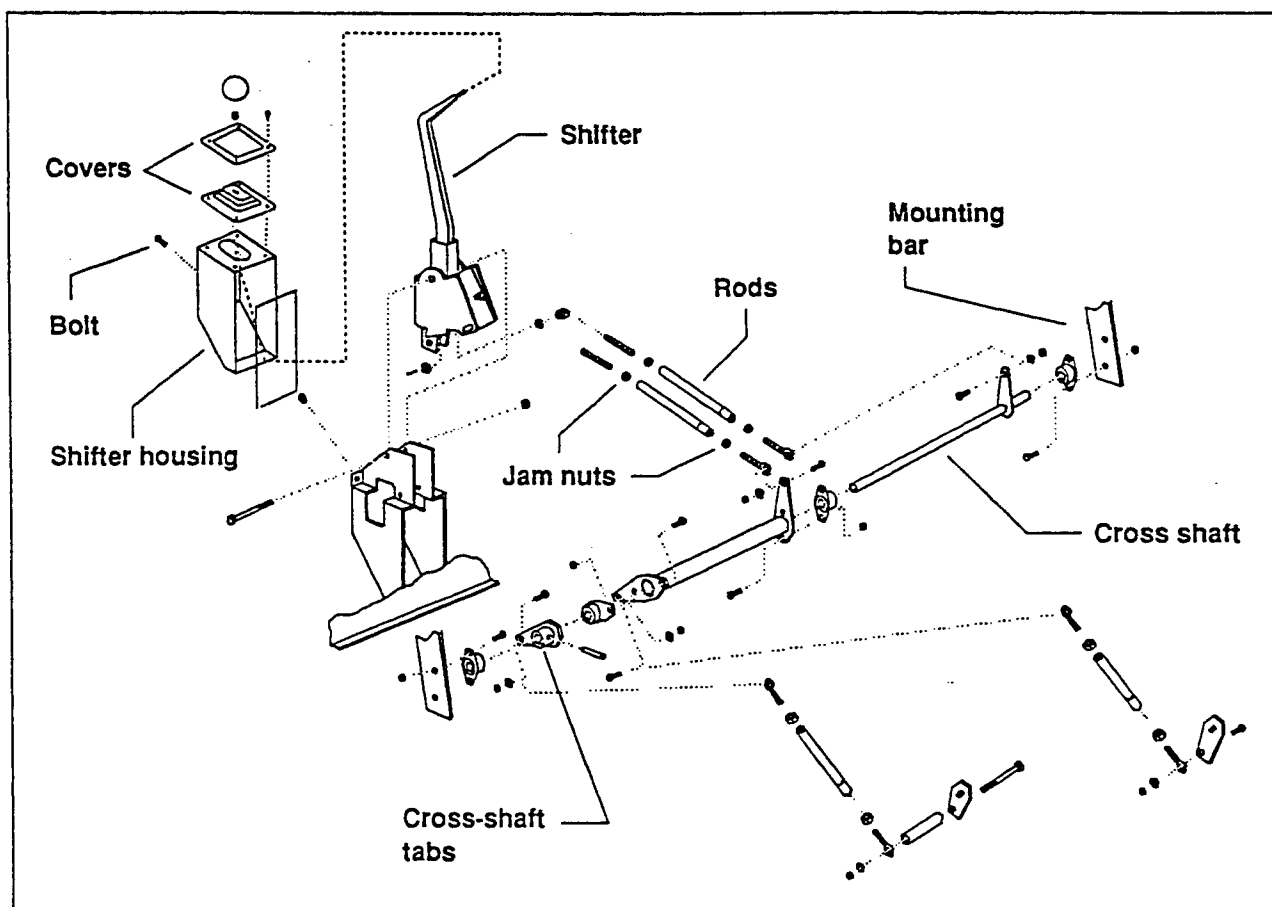


Figure 27 Adjusting the gear shift linkage

**Note:** *Be sure that the levers are in the neutral position.*

- 8** Insert and tighten nuts.
- 9** Remove front stop bolt from front shifter housing.
- 10** Put shifter in third gear.
- 11** Adjust stop bolt until it touches the shifter.

**Tip:** *The stop bolt is located in front of the shifter in the housing.*

- 12** Put shifter in second gear.
- 13** Adjust the other stop bolt until it touches the shifter.

**Tip:** *The other stop bolt is located behind the shifter in the housing.*

- 14** Verify that the gears shift properly and there are no loose connections.

# IGNITION SYSTEM

The ignition system consists of the following (see Figure 28):

- solid-state distributor
- ignition coil
- spark plugs and wires

A solid-state distributor is similar in appearance to the more conventional point ignition distributor. The main difference is that the solid-state distributor uses an electronic module and magnet instead of a cam and points.

The solid-state distributor has two wire leads that attach to the ignition coil. The black lead connects to the negative (-) terminal of the ignition coil. The red lead connects to the positive (+) terminal of the ignition coil.

## Checking the Ignition System

You can test the solid-state ignition system using a voltmeter or a 12 V test light.

**Note:** First tighten any loose connections in the ignition system wiring. Clean or replace ignition plug wires, coil wires, distributor cap and rotor if they have excessive dirt, grease, moisture or cracks.

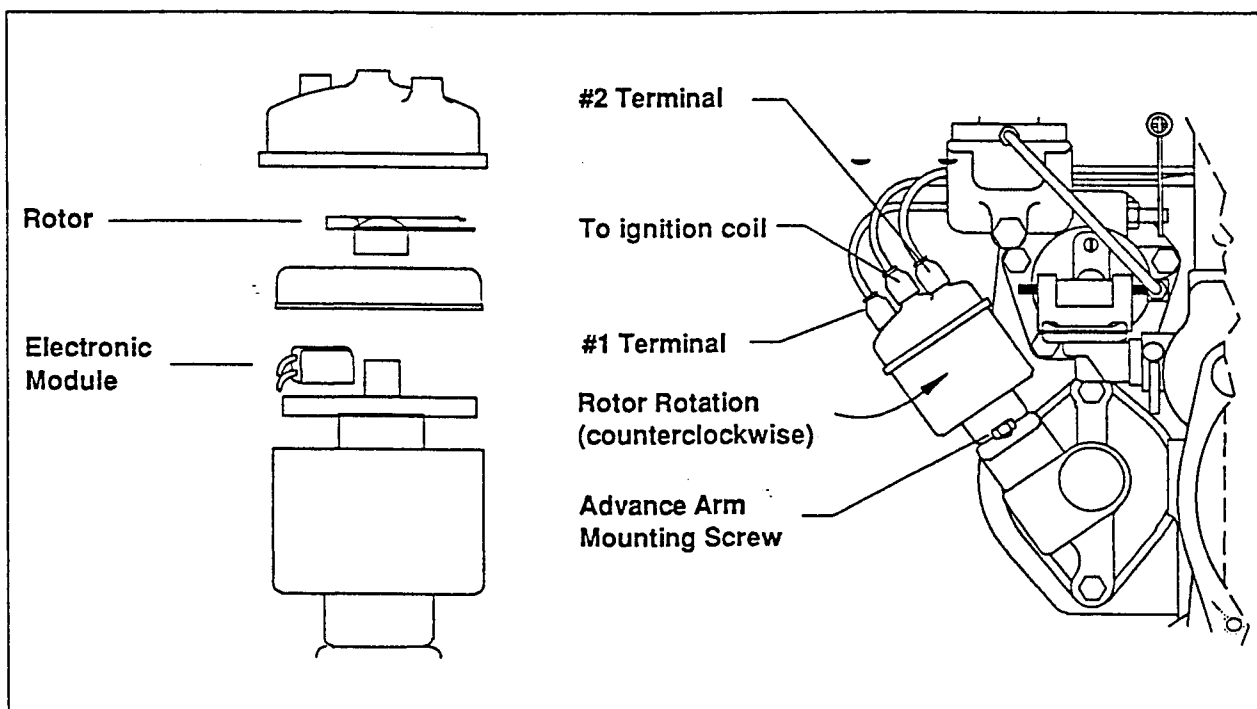


Figure 28 Solid-state ignition system

## Using a Test Light

To check the ignition system using a 12 volt test light, do the following:

### Caution!

Do not use a test light if it is NOT rated at 12 volts.

- 1** Check the battery voltage with the engine OFF. Charge or replace the battery if the test light does not fully illuminate.
- 2** Connect the positive (+) lead of the test light to the negative (-) terminal of the ignition coil, and the negative (-) lead of the test light to chassis ground.
- 3** Connect the (+) terminal on the ignition coil to chassis ground using a separate shorting cable with alligator clips on both ends.
- 4** Crank the engine. The test light should flicker.
- 5** Replace the electronic module if the test light does not flicker while the engine is cranked.

## Using a Voltmeter

To check the ignition system using a voltmeter, do the following:

- 1** Check the battery voltage with the engine OFF. Charge or replace the battery if the voltage is less than 12 V.
- 2** Set the voltmeter to DC volts and select a voltage range of 15 volts or higher.
- 3** Connect the positive (+) lead of a voltmeter to the negative (-) terminal of the ignition coil, and the negative (-) lead of the voltmeter to chassis ground.

**Note:** The ignition coil is located on the left side of the engine by the starter motor and solenoid.

- 4** Disconnect the distributor-to-coil wire from the center of the distributor cap and connect it to chassis ground.
- 5** Crank the engine and note the voltmeter reading.
- 6** Select the appropriate action according to the following:

Voltmeter Reading	Action
Fluctuates between 1 and 12 volts	Ignition system OK
Constant 0 volts	Check continuity of spark plug cables and distributor-to-coil cable for open circuit (use Ohm meter). Replace if found open.
Constant 1.0 to 3.5 V	Replace electronic module.
Constant 12 V	Replace electronic module.

## Testing the Ignition Coil

---

To test the ignition coil, do the following:

- 1** Disconnect the black lead from the negative (-) terminal of the ignition coil.
- 2** Connect a test light between the negative (-) terminal of the ignition coil and ground.
- 3** Turn the ignition switch ON. The test light should illuminate.

**Note:** *If the light does not illuminate, replace the ignition coil.*

- 4** If the test light illuminates, reconnect the black lead to the negative terminal of the ignition coil.

## Replacing the Ignition Coil

---

To replace the ignition coil, do the following:

- 1** Loosen the bolt on the clamp holding the coil in place.
- 2** Slide the ignition coil out of the clamp.
- 3** Replace ignition coil.

### **Caution!**

Be sure to connect the two red wires to the positive terminal and the single black wire to the negative terminal. Reversing these connections may damage the distributor.

- 4** Tighten the clamp bolt.

# MUFFLER AND EXHAUST PIPE

The muffler is located behind the driver seat in the engine compartment. Replace the muffler if it is rusted, corroded, pitted or damaged in any way.

## Caution!

Use only the standard Taylor-Dunn muffler, which has an approved spark arrestor. Using any other muffler may void your warranty.

To replace the muffler or exhaust pipe, do the following (see Figure 29):

- 1** Loosen the U-bolt on the exhaust clamp that is connected to the exhaust coupler.
- 2** Loosen the U-bolt on the tail pipe hanger.
- 3** Remove muffler and exhaust pipe.

**Tip:** If you only need to replace the muffler, loosen U-bolt on the exhaust clamp that connects the exhaust pipe to the muffler, then loosen the U-bolt on the tail pipe hanger.

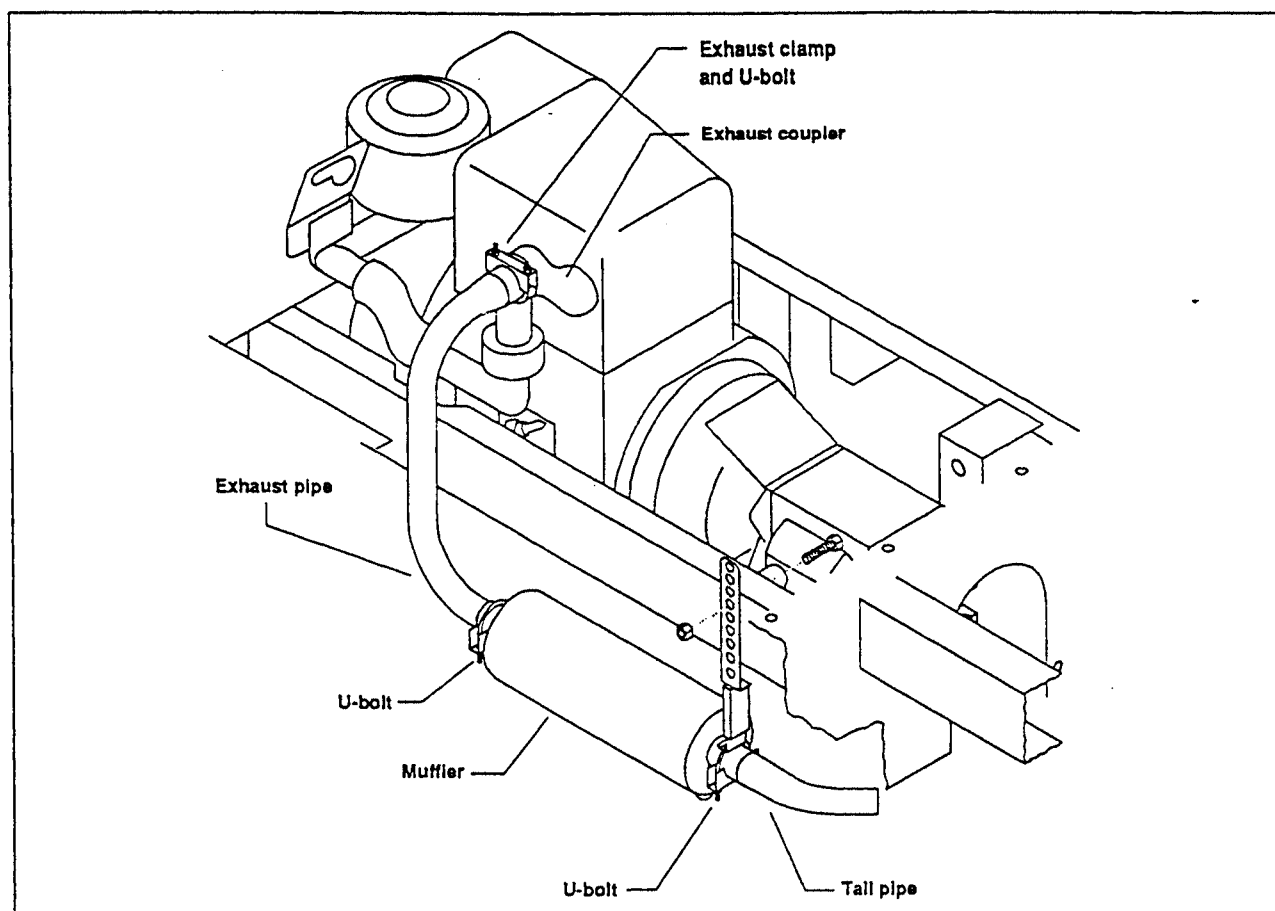


Figure 29 Replacing the muffler and exhaust pipe

# REAR AXLE ASSEMBLY

The rear axle assembly consists of the following:

- drive chain
- rear axle transfer case and shaft assembly
- drive shaft assembly
- differential
- rear axle

## Adjusting the Drive Chain

Adjust the drive chain according to the following schedule.

DRIVE CHAIN MAINTENANCE SCHEDULE		
Adjustment	How Often	Comments
First	at 100 hours	new unit or after installing new chain
Second	next 150 hours	normal running conditions
Third	next 250 hours	normal running conditions
Fourth and thereafter	every 400 hours	normal running conditions

To adjust the drive chain, do the following (see Figure 30):

- 1** Unscrew nuts on each side of the drive shaft bearing collar by one full turn.

**Caution!**

The life of the drive chain will be seriously reduced if the nuts are set too loose or too tight.

- 2** Lift the drive shaft bearing collar and take up the slack in the drive chain, then tighten the nuts securely.
- 3** Loosen each nut by  $\frac{1}{8}$ " and adjust the drive chain until it has a slight tension.
- 4** Tighten each nut securely.

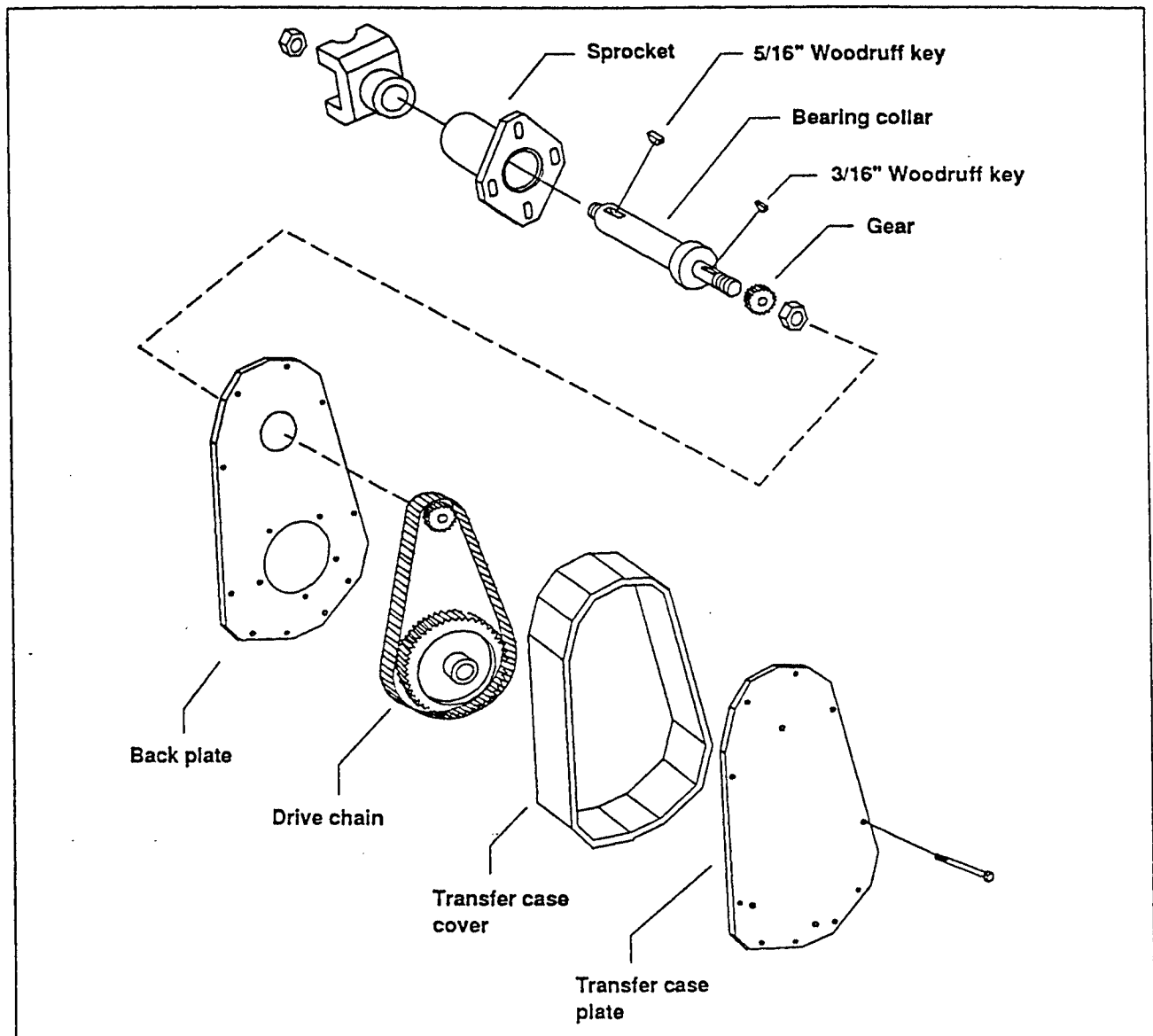


Figure 30 Adjusting the drive chain



## Repairing the Differential

- 1** Disconnect hydraulic brake line hoses.
- 2** Disconnect hand brake cables at the equalizer.

To repair the differential, do the following (see Figure 31):

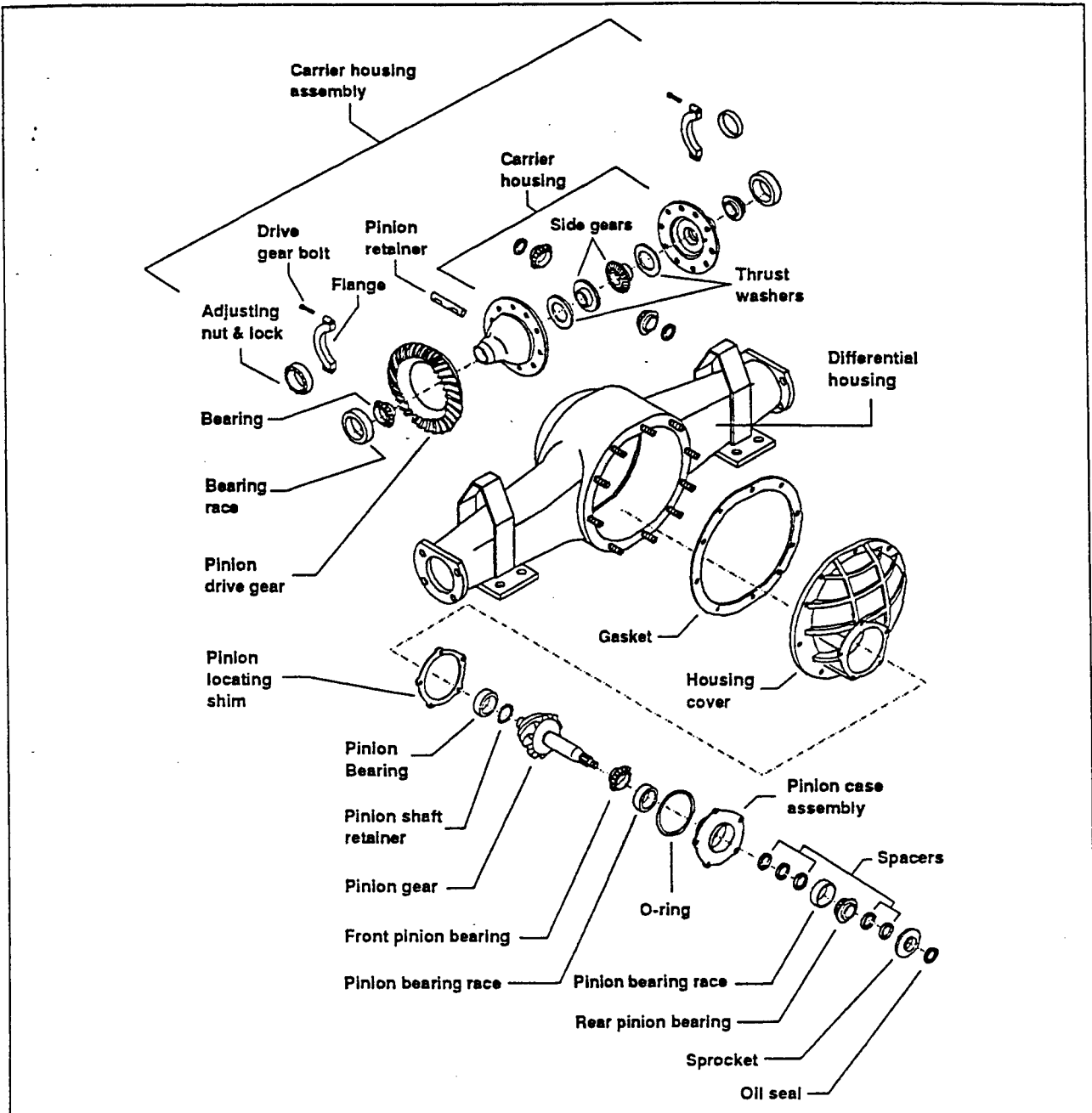


Figure 31 Repairing the differential

- 3** Drain oil from differential housing and transfer case.
- 4** Remove drive shaft.
- 5** Remove drive shaft assembly from chassis.
- 6** Remove shackle bolts and nuts from frame.
- 7** Remove leaf springs.
- 8** Remove transfer case cover.
- 9** Remove transfer case plate.
- 10** Remove drive chain and pinon sprocket.

*Note: Observe the location of the spacers on the drive shaft. You will use this later during installation.*

- 11** Remove backplate from carrier housing.
- 12** Remove the four bolts from the axle retainer/brake holding plate and pull out both axles.
- 13** Remove carrier housing from axle housing.
- 14** Mark one bearing race and flange. You will use this when assembling.
- 15** Remove the adjusting nut and lock, then remove the bearing race.
- 16** Remove pinion case assembly from differential housing.
- 17** Remove O-ring from pinion case assembly.
- 18** Remove pinion locating shims.
- 19** Remove pinion gear.
- 20** Remove gears and thrust washers.

- 21** If the pinion bearing must be replaced due to wear or damage, remove the pinion bearing and retainer out at the same time.

- 22** Press the pinion gear shaft from the bearings.

- 23** Remove bearings, races and spacers from pinion case assembly.

*Note: Do not remove pinion bearing races from pinion shaft retainer unless they are worn or damaged. The location of these cups are used to machine the flange and pilot after they are installed in the bores. If you must replace the cups, use a 0.0015" feeler gauge between the new cup and the bottom of the bore to ensure proper positioning of the cup.*

- 24** Lubricate all parts liberally using axle lubricant.

- 25** Place a side gear and thrust washer inside the bore of the differential housing.

- 26** Drive the pinion gear shaft into the differential housing just enough to retain a pinion thrust washer and pinion drive gear.

*Tip: Use a soft-faced hammer to drive the pinion gear shaft into the differential housing.*

*Note: Be sure to line up the pinion retainer holes with the pinion gear.*

- 27** Place the second side gear and thrust washer into position and install the housing cover.

- 28** Install pinion retainer.

*Tip: Insert a pinion or axle shaft spline inside the gear spline to check for free rotation of the differential gears.*

- 29** Temporarily thread two  $\frac{7}{16}$ " x 2" bolts (not supplied) through the flange until they meet the pinion drive gear, then advance the bolts another three or four turns to position the bolts onto the pinion drive gear.

**Note:** *This serves as a guide when aligning the drive gear bolt holes.*

- 30** Press or tap the pinion drive gear into position.
- 31** Remove one  $\frac{7}{16}$ " x 2" bolt and replace it with a drive gear bolt.
- 32** Remove the other  $\frac{7}{16}$ " x 2" bolt and replace it with the other drive gear bolt.
- 33** Alternately tighten each drive gear bolt across the gear by hand, then torque each bolt to 60 or 65 ft. lbs.

**Note:** *If you must replace the drive bearings and races, be sure to install the concave side of the new bearing race face-up.*

**Tip:** *Use a suitable press to install the bearings and races.*

- 34** Install front pinion bearing and race onto the pinion gear.
- 35** Install spacers and shim onto the pinion drive gear shaft.
- Note:** *If you must replace the shim, refer to Selecting Shims (immediately following these procedures) before proceeding.*
- 36** Place the pinion shaft retainer onto the pinion gear and install the pinion bearing.
- 37** Lubricate both bearings using differential oil.
- 38** Place spacers, sprocket and oil seal onto spline of pinion gear.

- 39** Install pinion gear washer and nut and tighten to 100 ft. lbs. of torque.

**Note:** *The pinion gear must spin freely without any play. If it is too tight or too loose, adjust the fit with a new shim.*

- 40** Install pinion case assembly and pinion gear into the housing cover.

- 41** Insert housing cover bolts and tighten to 50 ft. lbs. of torque.

**Note:** *The housing cover bolts will be removed later when you install the backplate assembly.*

- 42** Install the carrier housing, bearings, races and adjusting nuts into the differential housing.

- 43** Tighten the adjusting nuts until the mark on the bearing race aligns with the mark on the flange (see Step 14).

**Note:** *Tighten adjusting nuts to allow the carrier housing to revolve freely.*

### **Caution!**

Do not allow any bearing play or looseness. This causes gear noise and leads to unnecessary wear on the gears.

- 44** Adjust the pinion drive gear such that its backlash is between 0.005" and 0.009".

**Tip:** *Release some of the drive gear bolt tension to allow the bearing to move while making this adjustment, then retighten the bolt to 60 or 65 ft. lbs. of torque.*

**Note:** *If the drive gear bolts are set too loose, you will not be able to set the backlash and bearing clearance correctly.*

- 45** Install adjusting locknuts.

- 46** Install housing carrier and pinion case assembly into the differential housing.
- 47** Install new differential housing gasket (use gasket sealer).
- 48** Install differential housing bolts and tighten to 50 ft. lbs. of torque.
- 49** Install axles, brake assemblies, bearing retainers and gaskets.
- 50** Install backplate, sprockets and drive chain onto differential housing.

**Note:** Be sure that the  $\frac{3}{16}$ " woodruff key is in the proper position, and all spacers are in their original positions.

- 51** Install drive shaft and adjust drive chain.
- 52** Install pinion shaft washer and nut and tighten to 100 ft. lbs. of torque.
- 53** Install chain case cover and cover plate onto the backplate.
- 54** Install retaining bolts and nuts into the drive chain case cover and tighten to 12 ft. lbs. of torque.
- 55** Replace wheels.
- 56** Fill drive chain and differential housing with about two quarts of SAE 30 oil.
- 57** Install differential housing back into the vehicle chassis.
- 58** Reconnect brake lines.

**Note:** Be sure to bleed the brakes.

## Selecting Shims

Shims are available in 0.010" to 0.021" thickness in steps of 0.001" to correctly position the drive gear. A standard shim is 0.015" thick. Inserting a *thicker* shim between a pinion retainer and the carrier moves the pinion *away* from the drive gear.

**Note:** Matched pinions and drive gears use the same number.

**Note:** A "+" or a "-" indicated whether to add or subtract the indicated amount from a standard shim.

The following numbering system is used on pinions to indicate the amount you must add to or subtract from the standard shim:

PINION NUMBERING SYSTEM	
If number is:	Adjust standard shim as follows:
0	standard shim (no adjustment)
+1	add 0.001"
+2	add 0.002"
+3	add 0.003"
+4	add 0.004"
+5	add 0.005"
-1	subtract 0.001"
-2	subtract 0.002"
-3	subtract 0.003"
-4	subtract 0.004"
-5	subtract 0.005"

To select a new shim, do the following:

- 1** Measure the thickness of the original shim ( $S_o$ ) using a micrometer.
- 2** Note the number on the original pinion ( $P_o$ ) and the number on the new pinion ( $P_n$ ).
- 3** Subtract  $P_o$  from  $P_n$  to determine the amount you must add to or subtract from the original shim ( $S_o$ ) to arrive at the new shim thickness ( $S_n$ ).

Substitute the appropriate numbers into the following equation to determine the new shim:

$$S_n = S_o + (P_n - P_o).$$

### Example 1

If the original pinion number is "-1" ( $P_o$ ), the new pinion number is "+1" ( $P_n$ ), and you measure the original shim thickness as 0.015" ( $S_o$ ), then substitute the above numbers to determine the new shim as follows:

$$\begin{aligned} S_n &= S_o + (P_n - P_o) \\ &= 0.015" + [(+0.001") - (-0.001")] \\ &= 0.015" + 0.002" \\ &= 0.017" \end{aligned}$$

### Example 2

If the original pinion number is "+1" ( $P_o$ ), the new pinion number is "-1" ( $P_n$ ), and you measure the original shim thickness as 0.015" ( $S_o$ ), then substitute the above numbers to determine the new shim as follows:

$$\begin{aligned} S_n &= S_o + (P_n - P_o) \\ &= 0.015" + [(-0.001") - (+0.001")] \\ &= 0.015" - 0.002" \\ &= 0.017" \end{aligned}$$

**Note:** Example 1 and 2 yields the same result because the difference between the original and new pinion numbers is the same.

### Example 3

If the original pinion number is "-3" ( $P_o$ ), the new pinion number is "-1" ( $P_n$ ), and you measure the original shim thickness as 0.014" ( $S_o$ ), then substitute the above numbers to determine the new shim as follows:

$$\begin{aligned} S_n &= S_o + (P_n - P_o) \\ &= 0.014" + [(-0.003") - (-0.001")] \\ &= 0.014" - 0.002" \\ &= 0.012" \end{aligned}$$

### Example 4

If the original pinion number is "-1" ( $P_o$ ), the new pinion number is "-3" ( $P_n$ ), and you measure the original shim as 0.014" ( $S_o$ ), then substitute the above numbers to determine the new shim as follows:

$$\begin{aligned} S_n &= S_o + (P_n - P_o) \\ &= 0.014" + [(-0.001") - (-0.003")] \\ &= 0.014" + 0.002" \\ &= 0.016" \end{aligned}$$

## Repairing the Rear Axle Transfer Case Shaft

To repair the rear axle transfer case shaft, do the following (see Figure 32):

- 1** Disconnect hydraulic brake line hoses.
- 2** Disconnect hand brake cables at the equalizer.
- 3** Remove drive shaft.
- 4** Drain oil from transfer case.
- 5** Remove shackle bolts and nuts from frame.
- 6** Remove rear axle assembly from chassis.
- 7** Check and replace all drive shaft assembly components if worn or damaged.
- 8** Reassemble drive shaft assembly.
- 9** Replace rear axle assembly onto chassis.
- 10** Adjust brakes.

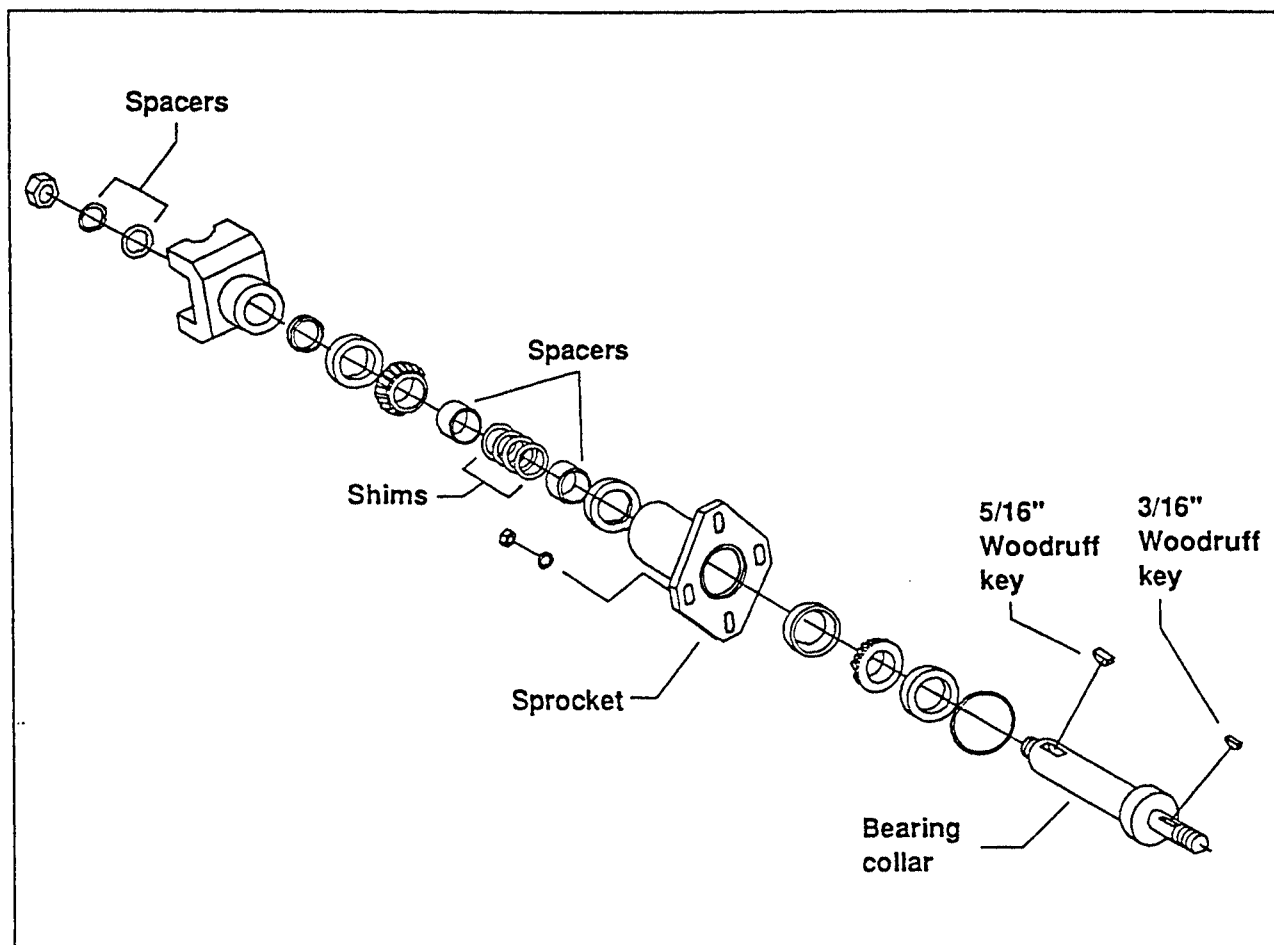


Figure 32 Repairing the rear axle transfer case shaft

# STARTER MOTOR

To repair the starter motor, do the following (see Figure 33):

- 1** Remove the starter motor from the chassis.
- 2** Remove the two bolts from the starter frame.

## Caution!

Be careful not to damage the field coils or armature wires.

- 3** Loosen and remove brush cover plate.
- 4** Remove brushes from holders.

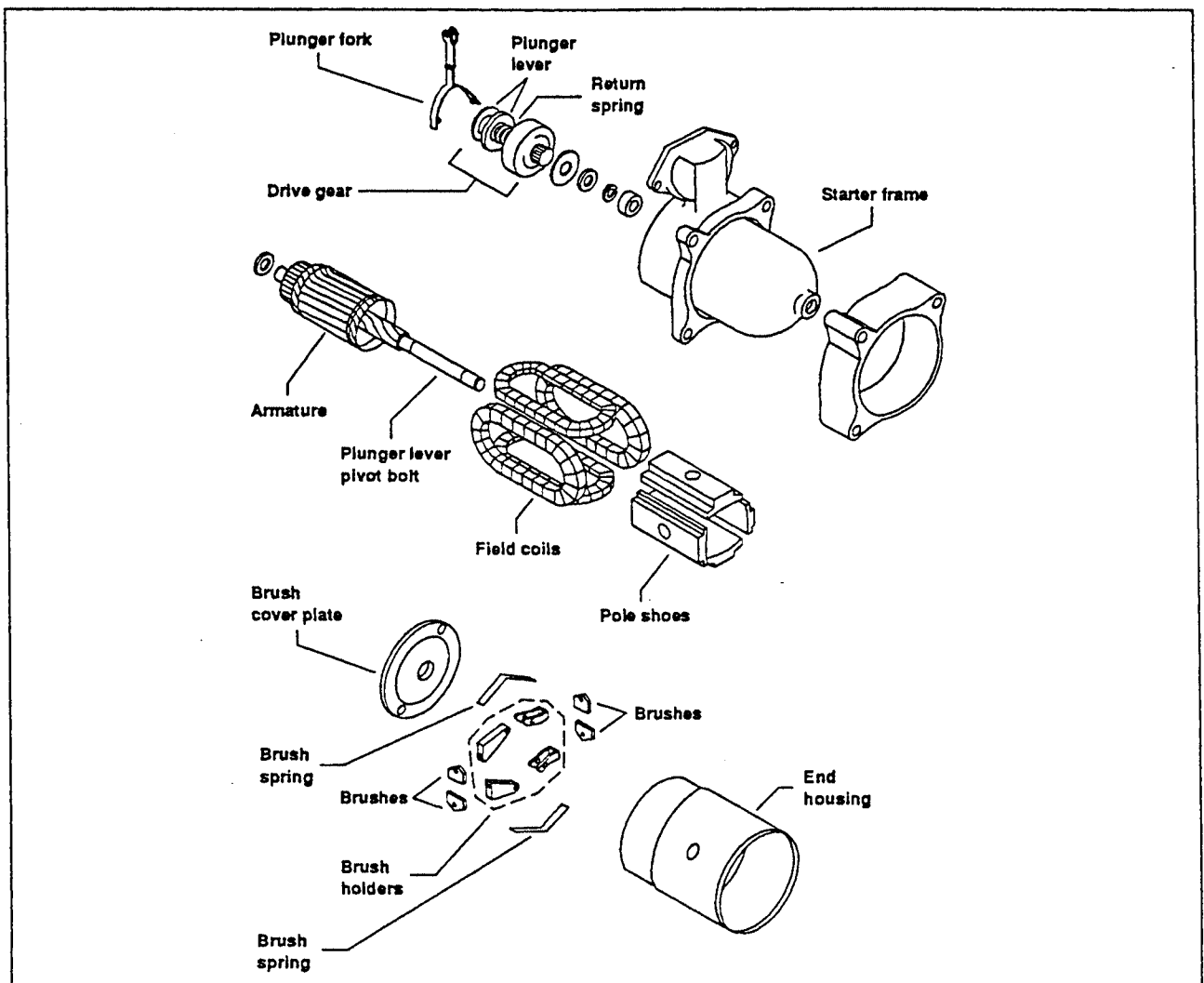


Figure 33 Repairing the starter motor

- 5** Measure the brush thickness, then set them aside (you will install the brushes later).

**Note:** *If any brush measures 1/4" or less, use a complete set of new brushes, even if only one brush is out of spec.*

- 6** Remove end housing and plunger lever pivot bolt.
- 7** Remove plunger fork and armature.
- 8** Clean the field coils, armature, brush cover plate, and end housing bushings using a soft brush and/or compressed air.
- 9** Clean the commutator with #00 or #000 sandpaper, then use an electrical contact cleaner and let dry.
- 10** Wash all other parts using an electrical contact cleaner and let dry.

**Note:** *If the field coils are damaged in any way (broken or burned insulation, unsoldered connections), replace them with new coils.*

- 11** Install the armature into the starter frame.

- 12** Install the plunger lever into the starter frame.

- 13** Install the plunger lever pivot bolt.

- 14** Lubricate the end housing bushings with a thin coat of grease.

- 15** Position return spring on plunger lever.

- 16** Position end housing inside starter frame.

- 17** Install brushes in brush holders.

- 18** Center brush springs onto brushes.

- 19** Install brush cover plate bolts and tighten to 50 ft. lbs. of torque.

**Note:** *Be sure to position the brush cover plate boss inside the starter frame slot.*

- 20** Connect the starter motor to the battery and test the starter for proper operation.

- 21** Install the starter motor in the vehicle chassis.



# SUSPENSION

Adjust the suspension according to the tire option installed on the vehicle. Refer to Figure 34.

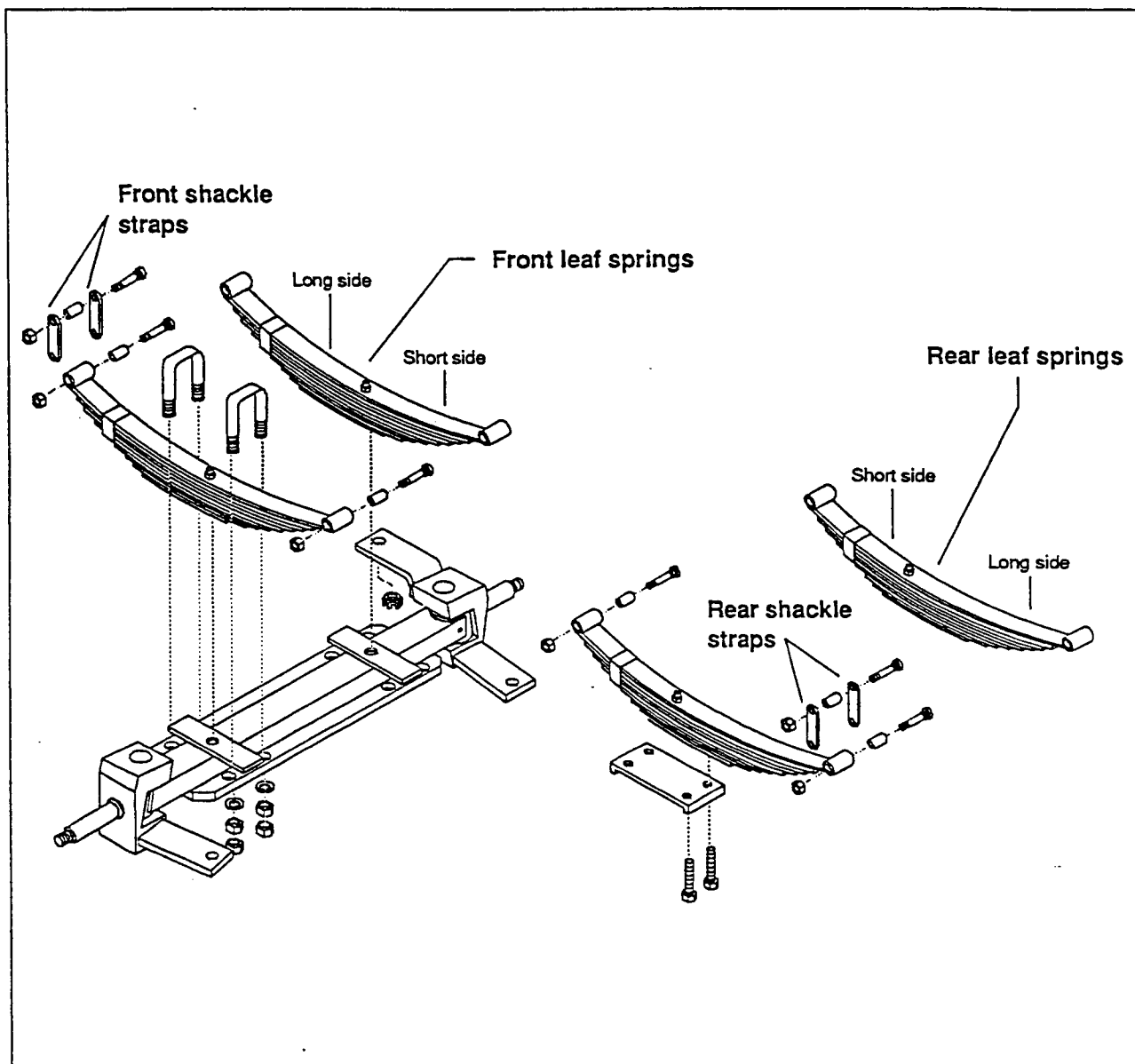


Figure 34 Adjusting the suspension

## For Pneumatic Tires

To adjust the suspension when pneumatic tires are installed, do the following:

- 1** Install the shorter end of the front leaf springs into the lower hole on the frame body.
- 2** Bolt the longer end of the front leaf springs to the front shackle strap.

**Note:** *The front leaf springs used for pneumatic tires have a longer shackle strap and a longer suspension stop than those used for solid cushion tires.*

**Tip:** *Turn the nut (not the bolt) when adjusting the shackle straps. When tight, loosen the nut by 1/2 turn.*

- 3** Install the longer side of the rear leaf spring to the rear shackle strap.

**Note:** *Rear leaf springs use the short shackle strap, not the long shackle strap.*

- 4** Inflate the pneumatic tires to 80 psi.

## For Solid Cushion Tires

To adjust the suspension when solid cushion tires are installed, do the following:

- 1** Install the shorter end of the front leaf springs into the upper hole on the frame body.
- 2** Bolt the longer end of the front leaf springs to the front shackle strap.

**Tip:** *Turn the nut (not the bolt) when adjusting the shackle straps. When tight, loosen the nut by 1/2 turn.*

**Note:** *The front leaf springs used for solid cushion tires have a shorter shackle strap and a shorter suspension stop than those used for pneumatic tires.*

- 3** Install the longer side of the rear leaf spring to the rear shackle strap.

**Note:** *Rear leaf springs use the short shackle strap, not the long shackle strap.*

# TRANSMISSION

The 3-speed manual transmission has three forward speeds and one reverse speed. It uses the standard H-shift pattern, and has synchromesh for the 2nd and high gears.

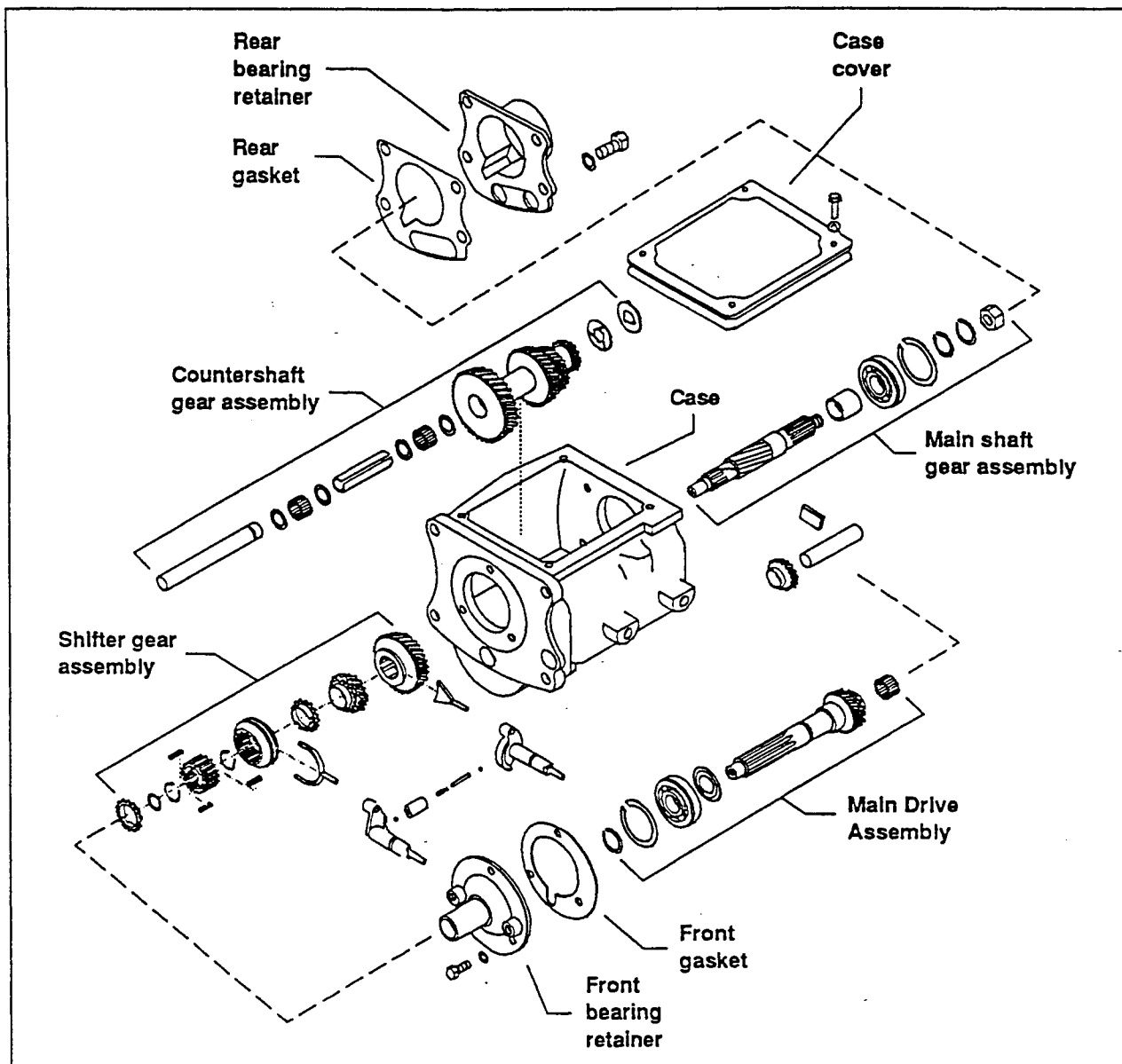


Figure 35 The transmission assembly

## Removing the Transmission

To remove the transmission, do the following (see Figure 35):

- 1** Disconnect battery cables from battery.
- 2** Disconnect gear shift levers from transmission.
- 3** Disconnect drive shaft from transmission.
- 4** Disconnect clutch yoke shaft from transmission.
- 5** Remove transmission bracket from underneath transmission.
- 6** Disconnect transmission from engine and remove transmission.

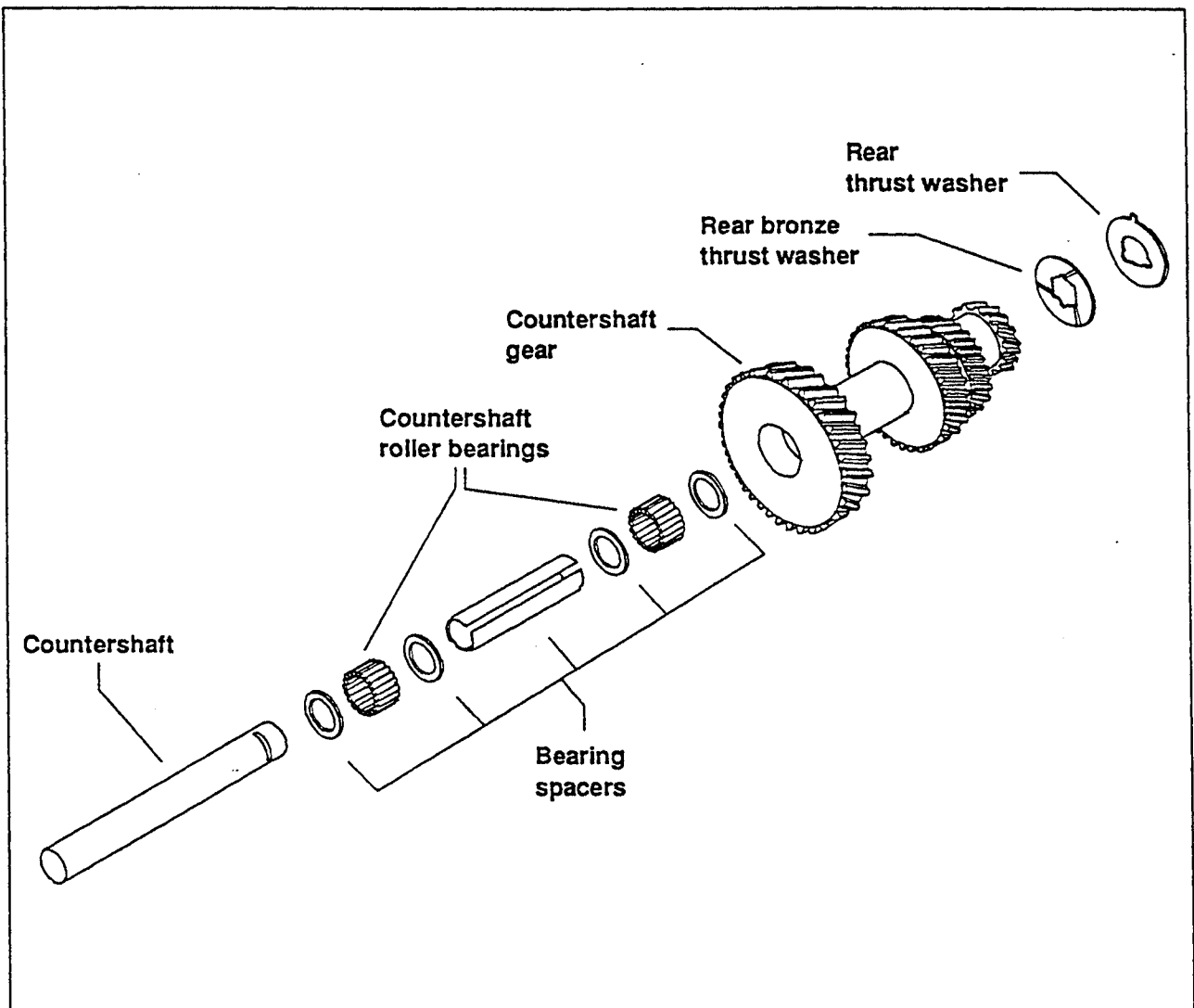


Figure 36 Countershaft gear assembly

## Disassembling Transmission

To disassemble the transmission, do the following:

- 1** Remove the transmission.
- 2** Drain all lubricant from transmission.
- 3** Remove case cover (Figure 35).
- 4** Remove front bearing cap from transmission (Figure 35).
- 5** Remove main drive gear snap ring and lock ring (Figure 38).
- 6** Remove front bearing from main drive gear using a bearing puller (Figure 38).
- 7** Remove oil slinger (Figure 38).
- 8** Remove rear cover from transmission case (Figure 35).
- 9** Remove mainshaft nut (Figure 39).
- 10** Remove main drive gear (Figure 38).

### Caution!

Do not damage the synchronizer clutch.

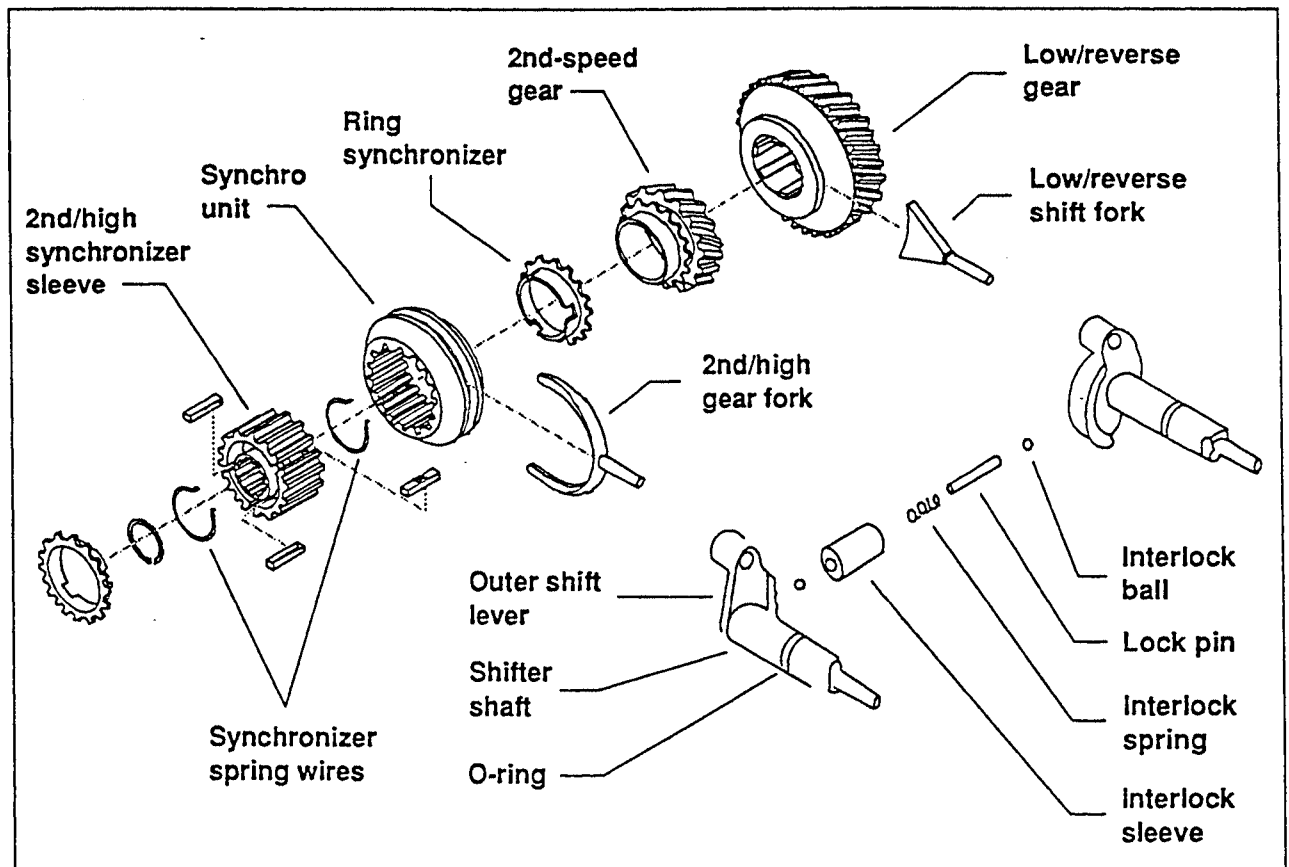


Figure 37 Shifter gear assembly

**Tip:** Move the mainshaft to the rear of the transmission case about  $\frac{1}{2}$ ", then lower the front end of the main drive gear while raising the rear end of the mainshaft over the countershaft gear.

- 11** Replace any worn roller bearings (Figure 39).

**Note:** There are 21 roller bearings inside the rear end of the main drive gear. These bearings form the front bearing assembly for the mainshaft. Worn rollers produce a noisy transmission. Replace bearings at all teardowns.

- 12** Remove the second/high gear fork (Figure 37).

- 13** Tilt the mainshaft and remove the synchro unit assembly, 2nd-speed gear, low/reverse gear, and low/reverse gear fork (Figure 36).

- 14** Remove the mainshaft and rear bearing from the rear of the transmission case (Figure 39).

- 15** Remove lock plate (Figure 39).

- 16** Drive the countershaft out through the rear of the transmission case using a soft (brass) drift (Figure 36).

- 17** Lower the countershaft gear to the bottom of the transmission case (Figure 36).

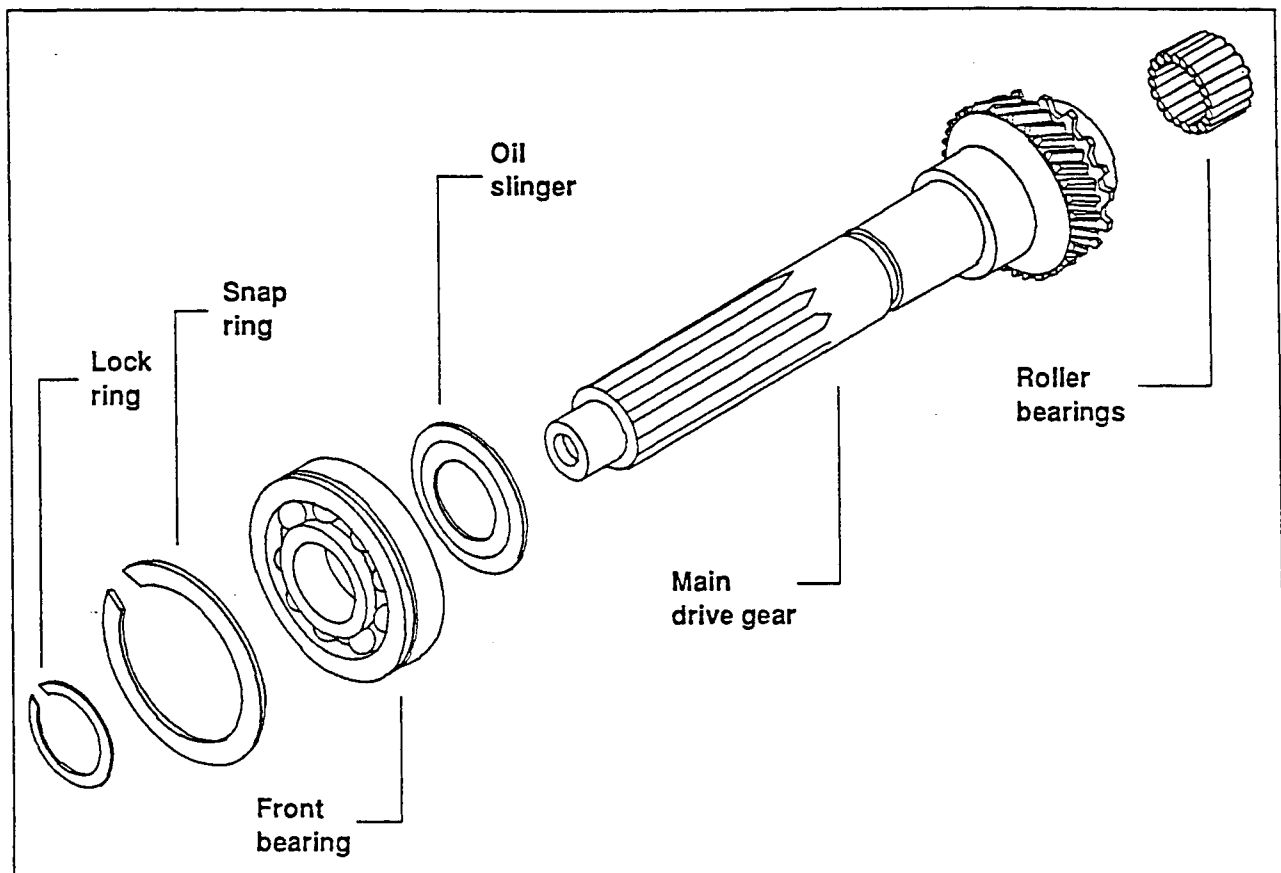


Figure 38 Main drive assembly

- 18** Remove the reverse idler gear by driving the reverse idler shaft out of the transmission case using a soft (brass) drift (Figure 39).
- 19** Lift the reverse idler gear from the transmission case (Figure 39).
- 20** Remove the countershaft gear assembly (Figure 36).
- 21** Replace the two thrust washers if they show any sign of wear, score or damage (Figure 36).
- 22** Remove the outer shift levers and lock pin (Figure 37).
- 23** Slowly remove the shifter shafts from the transmission case and catch the two interlock balls (Figure 37).

**Note:** Record the position of the thrust washers for reference during reassembly.

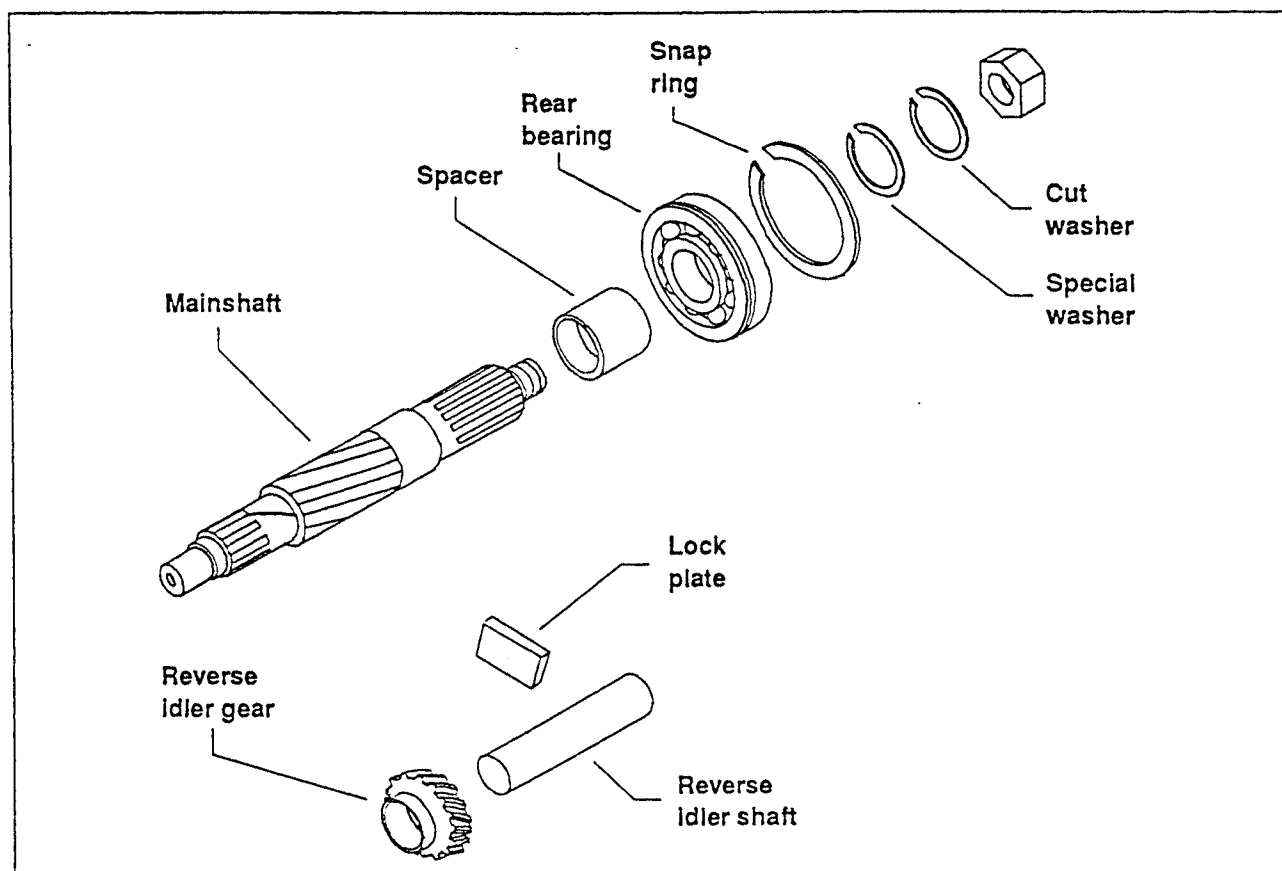


Figure 39 Mainshaft gear assembly

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## Repairing Transmission

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To repair the transmission parts, do the following:

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### Bearings

---

Handle bearings with great care. Wrap them in a clean cloth or paper until they can be washed.

To wash a bearing, submerge it in a cleaning solution that is absolutely free of dirt, and rotate it to flush away all oil and dirt. Carefully dry the bearings and examine each for cracked races, worn or scored balls.

---

### Gears

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Wash all gears in a cleaning solution. Inspect each gear for worn, cracked or chipped teeth. Slide each gear onto a new shaft. If a gear feels loose, replace it.

*Note: If you replace a gear, also replace the gear that it meshes with.*

---

### Mainshaft

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Install the gears onto the mainshaft to make sure they slide on and off easily. They should fit smoothly with no excessive play between the splines. If the fit is too tight, look for burred edges on the spline.

---

## Synchro Unit Assembly

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Carefully inspect the synchronizer unit, synchronizer rings, and synchronizer spring wires. Slide the rings and wires into the synchronizer unit and clutch shaft. Replace the rings if there is excessive wear or if the taper is pitted (Figure 37).

---

## Transmission Case

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Examine the surface of the bearing recesses in the transmission case. If they show signs of wear or scoring, it indicates that the bearings have been revolving in their housing. Examine the transmission case for cracks or other defects.

Be certain that all parts of the transmission case are thoroughly clean before and during assembly.



## Assembling Transmission

To assemble the transmission, do the following:

**Note:** When assembling the transmission, always use new gaskets, seals and roller bearings.

**1** Install new O-rings onto shifter shaft (Figure 37).

**2** Install both outer shift levers (Figure 37).

**3** Install interlock sleeve, interlock balls, lock pin and interlock spring (Figure 37).

**Tip:** While compressing the interlock spring with your fingers, locate the interlock ball in the detent of the quadrant. Lock the shifter shafts in place with lock pins and install the shift levers.

**4** Install countershaft gear (Figure 36).

**Tip:** To hold all parts (countershaft roller bearings, spacers and thrust washers) in place while installing the countershaft gear, load the countershaft gear with a dummy shaft (0.677" x 5 7/8"). After installing the bearings in the countershaft gear, hold the countershaft gear to prevent dropping the dummy shaft, then install the thrust washers. The indexed side of the bronze thrust washer must face the front of the transmission case. Then position the other thrust washer and install the countershaft gear assembly in the bottom of the case. DO NOT install countershaft through countershaft gear at this time.

**5** Install reverse idler gear with the chamfered side facing the front of the transmission case (Figure 37).

**Tip:** Drive the reverse idler shaft in from the rear of the transmission case, with the notched end of the shaft to the rear. The notch must face the countershaft in order to permit installation of the lock plate. After aligning the slots in the countershaft and reverse idler shaft, position countershaft gear assembly and drive the dummy shaft out using the countershaft.

**6** Install lock plate into position (Figure 39).

**7** Press transmission rear bearing onto the mainshaft and install snap ring and washers (Figure 39).

**Tip:** Install the mainshaft into the transmission case from the rear.

**8** Install both shift forks (Figure 37).

**9** Slide the 1st/reverse-speed gear onto the mainshaft (Figure 37).

**10** Install the 2nd/high-speed gear and the synchro unit onto the mainshaft (Figure 37).

**Tip:** The hub of the synchro unit should be installed toward the front of the transmission case.

**11** Install the synchro unit snap ring on the front end of the mainshaft (Figure 37).

**Tip:** When the synchro unit hub is pressed tight against the snap ring, there should be a 0.003" to 0.010" clearance between the 2nd-speed gear and the shoulder of the mainshaft.

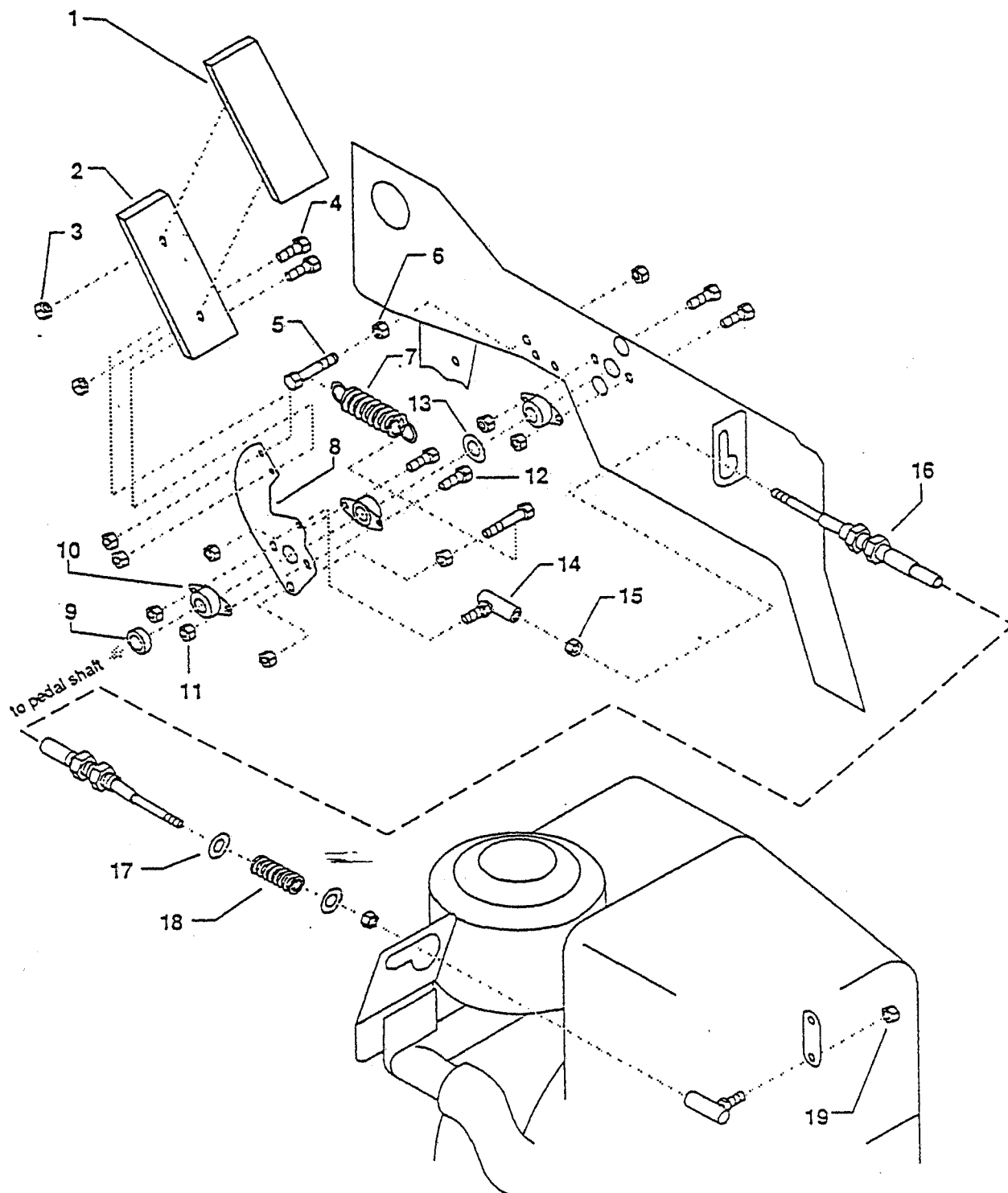
**12** Insert the 21 roller bearings into the main drive gear (Figure 38).

**Tip:** Use a coat of Hi-Temp grease to hold them in position.

- 13** Install the main drive gear onto the mainshaft (Figure 38).
- 14** Move the mainshaft rear bearing into the transmission case and align the shifter forks and gears into its bearing in the main drive gear (Figure 39).
- 15** Place the oil slinger onto the main drive gear, with the concave side toward the rear (Figure 38).
- 16** Install front bearing onto the main drive gear (Figure 38).
- 17** Install snap ring and lock ring (Figure 38).
- 18** Place a new gasket between the front bearing retainer and transmission case, then install the bearing retainer (Figure 35).
- 19** Measure the clearance of the lock and snap rings using a feeler gauge. The clearance should be between 0.036" to 0.100" at either ring (Figure 38).
- 20** Be sure that all gears work properly before reinstalling the transmission in the vehicle.

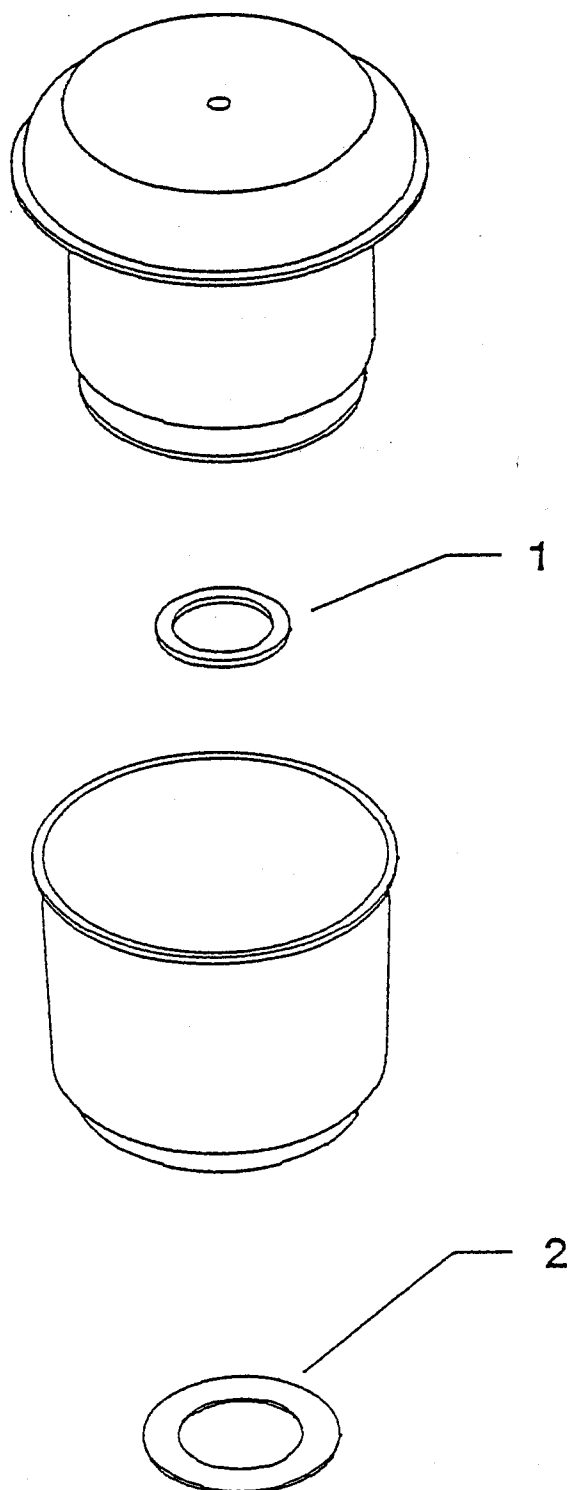
# **SECTION 5: ILLUSTRATED PARTS BREAKOUT**

# ACCELERATOR LINKAGE



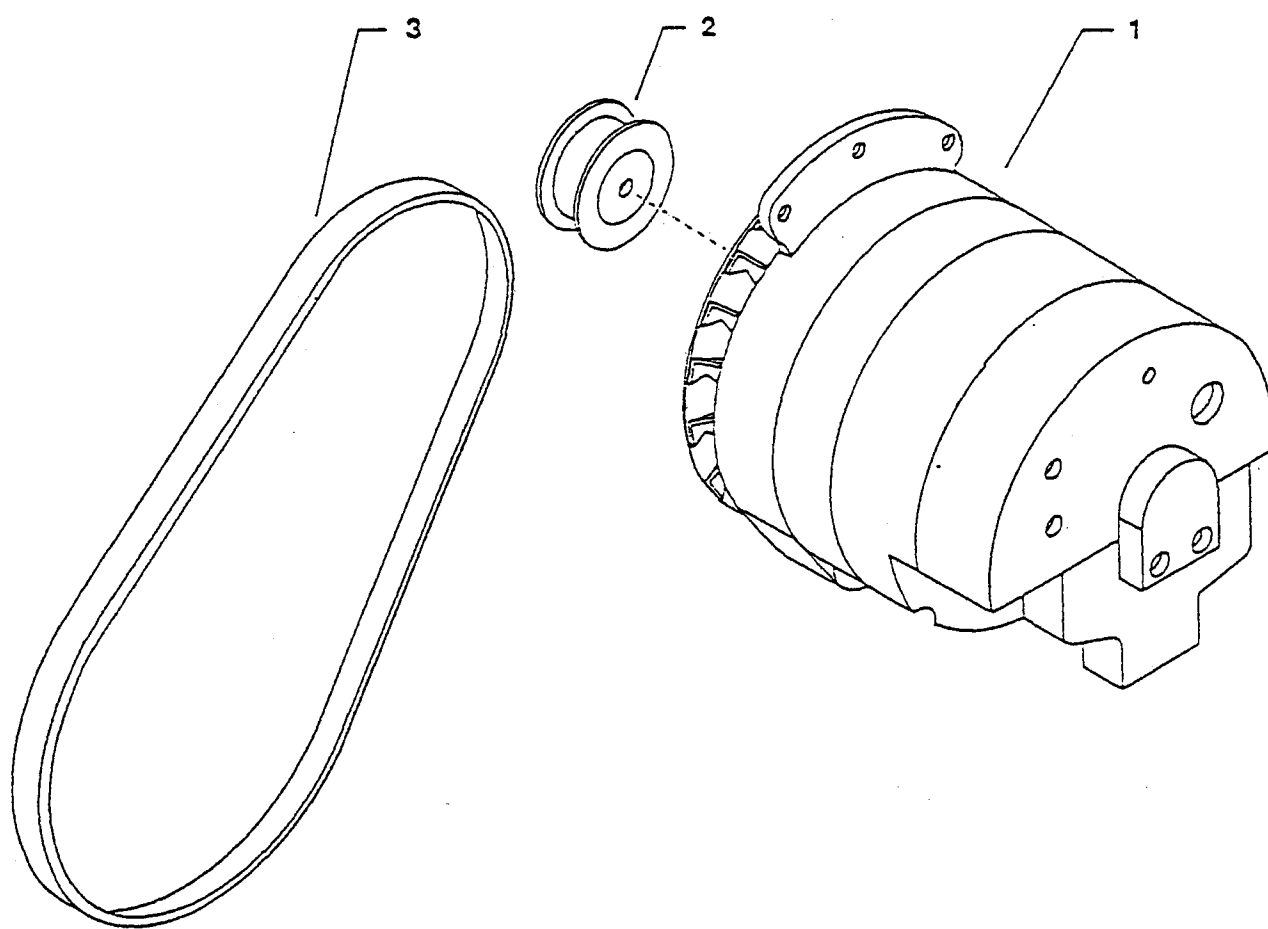
ACCELERATOR LINKAGE			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	98-254-00	Pad, Pedal	1
2	98-254-24	Pedal, Accelerator	1
3	88-069-87	Nut, Keps. 1/4"	4
4	88-060-08	Screw, Hex Head, 1/4" x 5/8"	2
5	88-101-16	Screw, Hex Head, Cap, 3/8" x 2"	2
6	88-069-81	Locknut, Nylon, 1/4"	6
7	85-295-00	Spring, Release, 9/16" x 4 7/8"	1
8	00-660-08	Pedal Mount, Accelerator	1
9	17-110-00	Collar, 3/4" Shaft	1
10	80-410-20	Bearing, Flange	3
11	88-079-86	Locknut, NF, 1/4"	4
12	88-100-11	Screw, Hex Head, Cap, 3/8" x 1"	4
13	88-228-61	Washer, SAE, 3/4"	1
14	86-500-10	Ball Joint	2
15	88-109-87	Nut, Keps	4
16	96-870-00	Cable, Accelerator	1
17	88-048-61	Washer, SAE, #10	2
18	85-010-10	Spring, Compression, 5/16" x 4 3/8"	1
19	88-049-80	Nut, Hex Head, 10-32	2

## AIR CLEANER AND FILTER



AIR CLEANER AND FILTER (66-001-00)			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	66-001-03	Gasket, Air Filter	1
2	66-001-02	Gasket, Air Filter Base	1

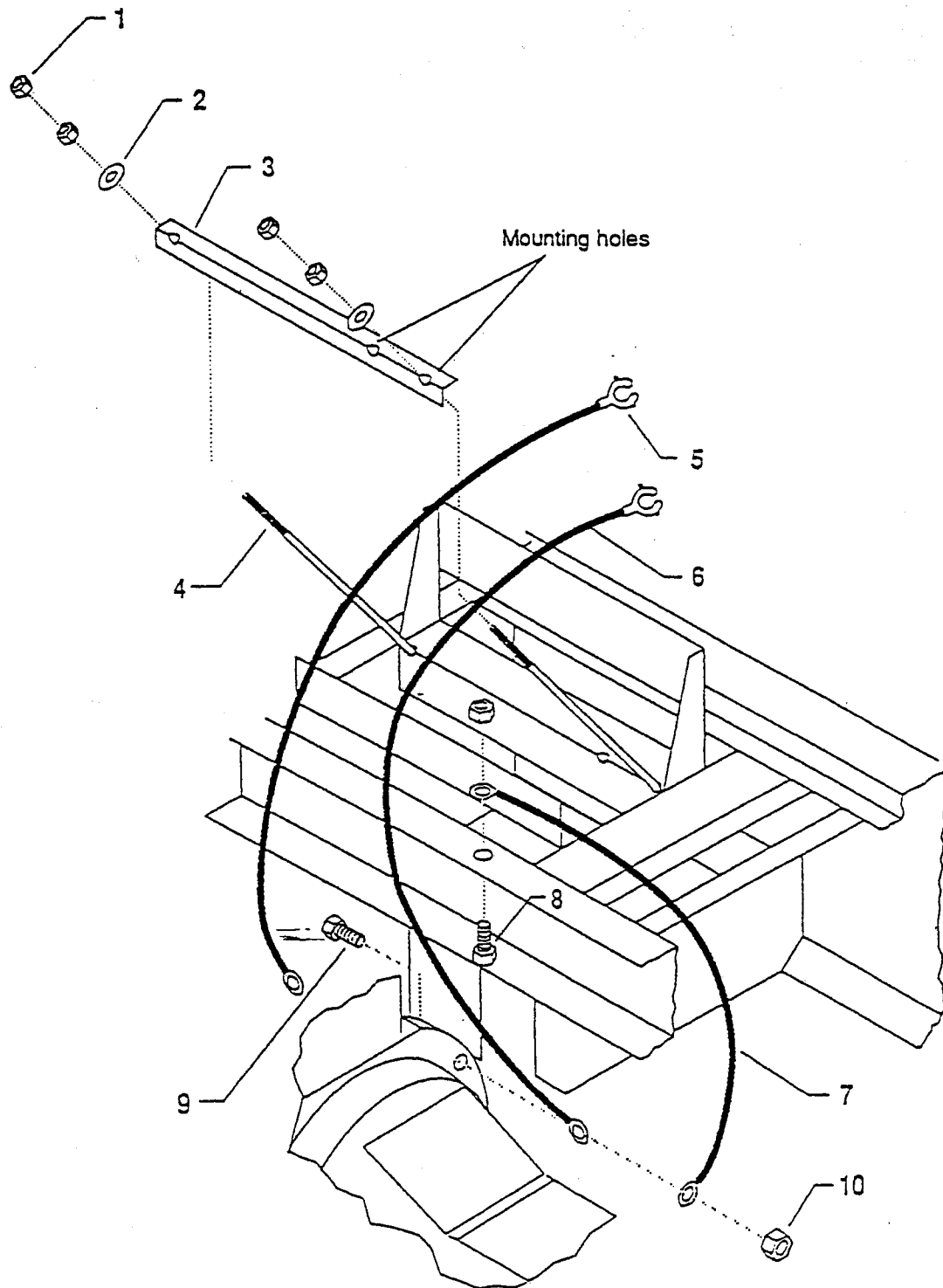
# ALTERNATOR





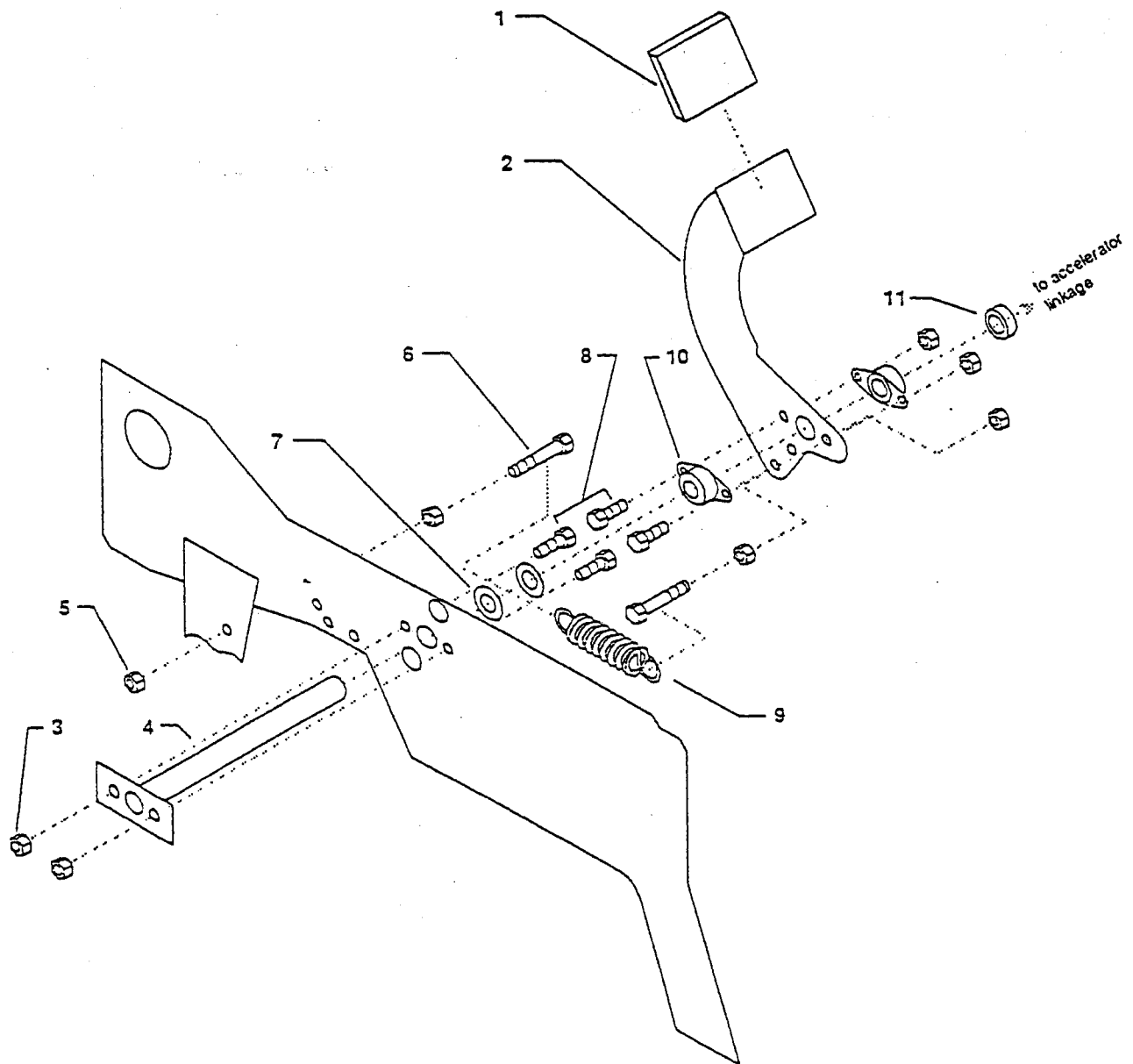
ALTERNATOR ASSEMBLY			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	65-022-00	Alternator	1
2	30-100-50	Alternator Pulley	1
3	30-500-30	Alternator belt	1

# BATTERY HOLDER



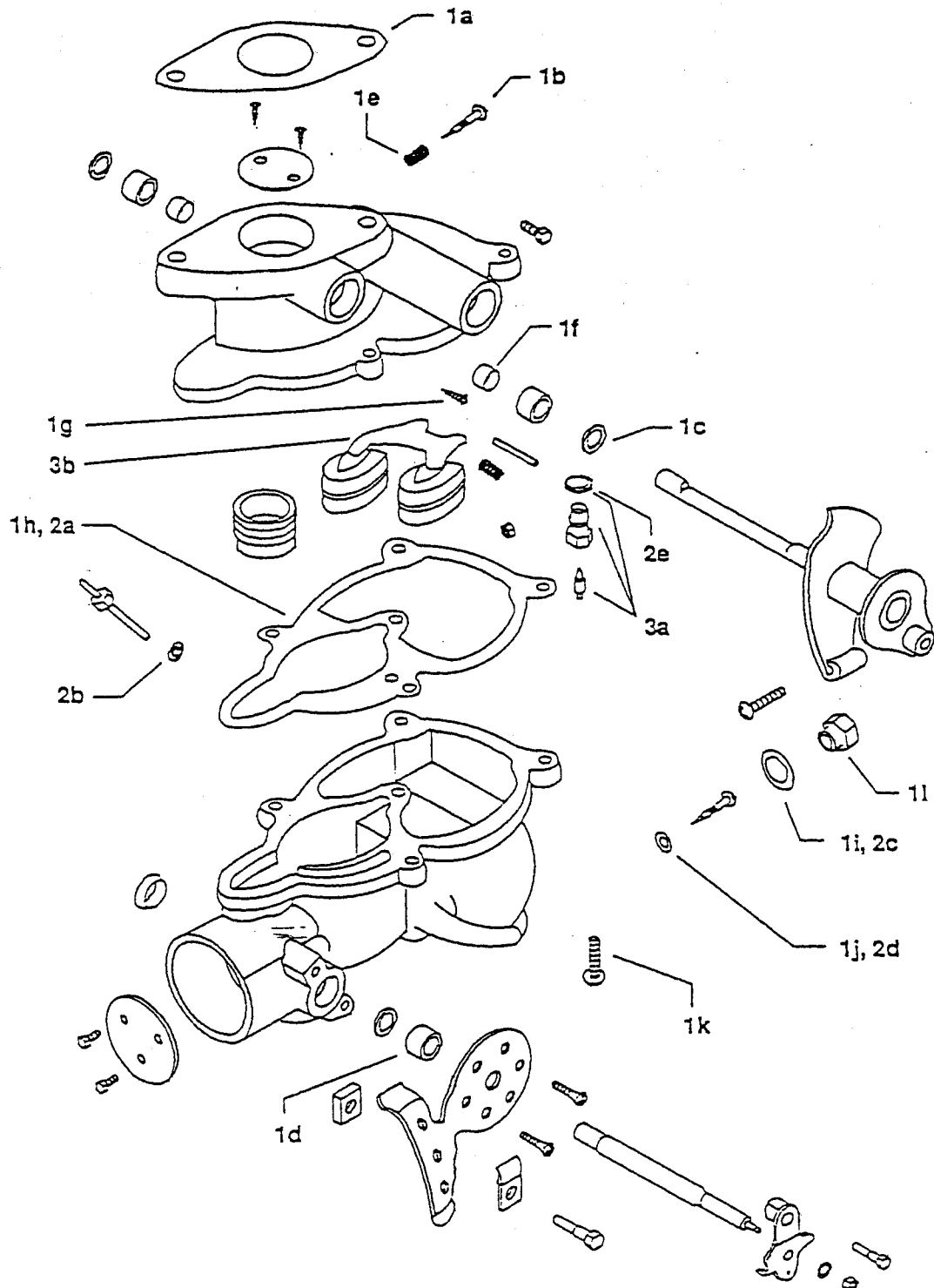
BATTERY HOLDER			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	88-069-80	Nut, Hex Head, NC, 1/4"	4
2	88-068-61	Washer, SAE, 1/4"	2
3	77-904-50	Angle, Battery Hold Down	1
4	50-243-15	Rod, Battery Hold Down	2
5	75-146-45	Cable, Battery, Positive	1
6	75-146-46	Cable, Battery, Negative	1
7	75-146-47	Jumper	1
8	88-080-11	Screw, Hex Head, NC, 5/16" x 1"	1
9	88-100-14	Screw, Hex Head, NC, 5/16" x 1 1/2"	1
10	88-089-81	Locknut, 5/16"	2

## BRAKE PEDAL LINKAGE



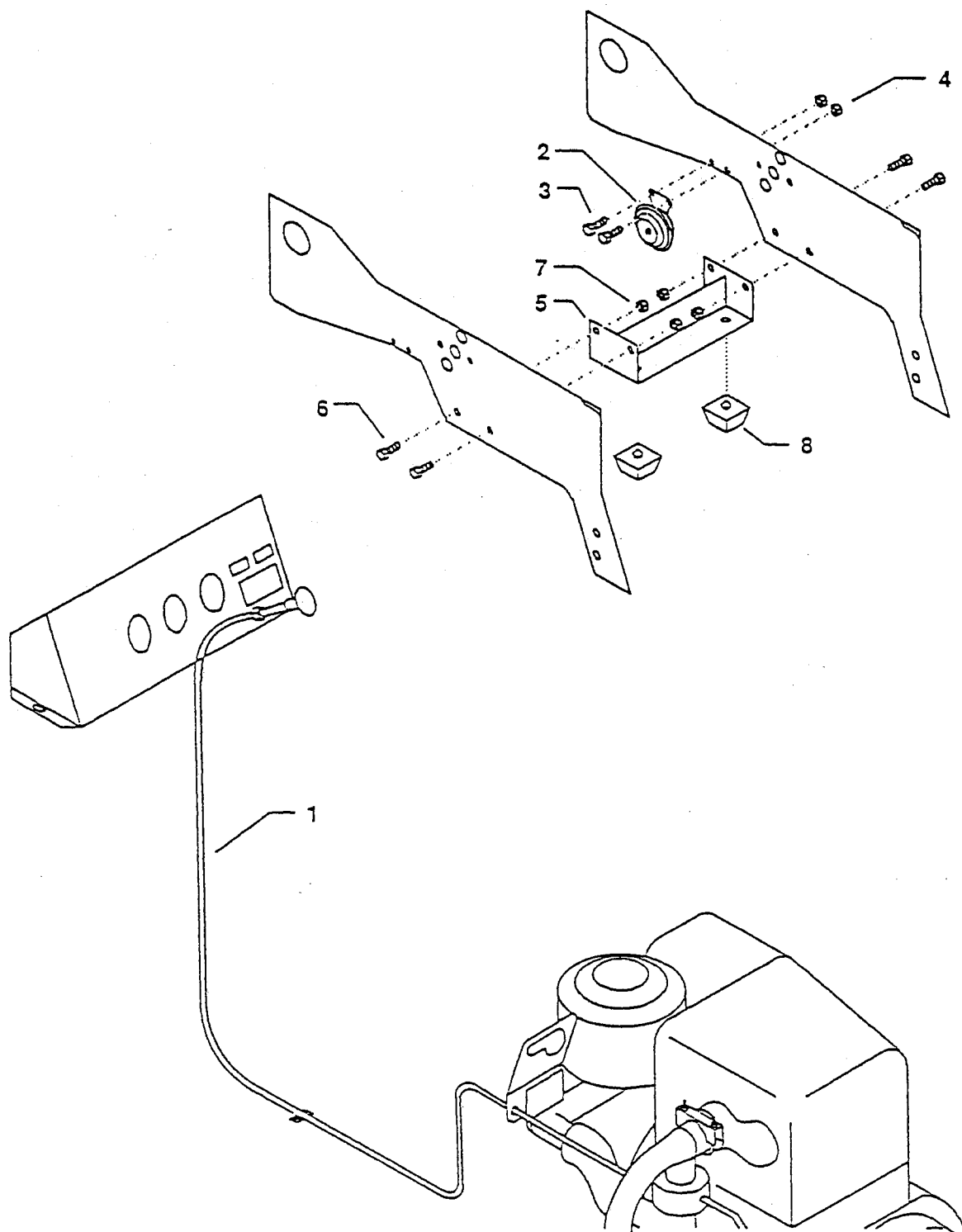
BRAKE PEDAL LINKAGE			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	98-200-00	Pad, Pedal	1
2	00-660-06	Pedal, Brake	1
3	88-109-81	Locknut, NC, 3/8"	4
4	00-660-22	Shaft, Brake and Accelerator Pedal	1
5	88-109-87	Nut, Keps, 3/8"	4
6	88-101-16	Screw, Hex Head, Cap, 3/8" x 2"	2
7	88-228-61	Washer, SAE, 3/4"	2
8	88-100-11	Screw, Hex Head, Cap, 3/8" x 1"	4
9	85-295-00	Spring, Release, 9/16" x 4 7/8"	1
10	80-410-20	Bearing, Flange	2
11	17-110-00	Collar, 3/4" Shaft	1

# CARBURETOR



CARBURETOR (66-002-00)			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	66-002-60 (Parts not sold separately)	Carburetor Kit, Repair	1
1a		Manifold Gasket	1
1b		Adjustment Needle	1
1c		Retainer Shaft Seal	2
1d		Choke Shaft Retainer Seal	1
1e		Spring	1
1f		Bushing	2
1g		Idle Jet	1
1h		Bowl Gasket	1
1i		Adjustment Plug Washer	1
1j		Main Jet Washer	1
1k		Bowl-to-Body Screw	4
1l		Bowl Drain Plug	1
2	66-002-61 (Parts not sold separately)	Carburetor Kit, Gasket	1
2a		Bowl Gasket	1
2b		Discharge Jet Washer	1
2c		Adjustment Plug Washer	1
2d		Main Jet Washer	1
2e		Fiber Washer, .040"	1
3	66-002-62 (Parts not sold separately)	Float and Valve Kit	1
3a		Valve, Seat and Washer	1
3b		Float and Hinge Assembly	1

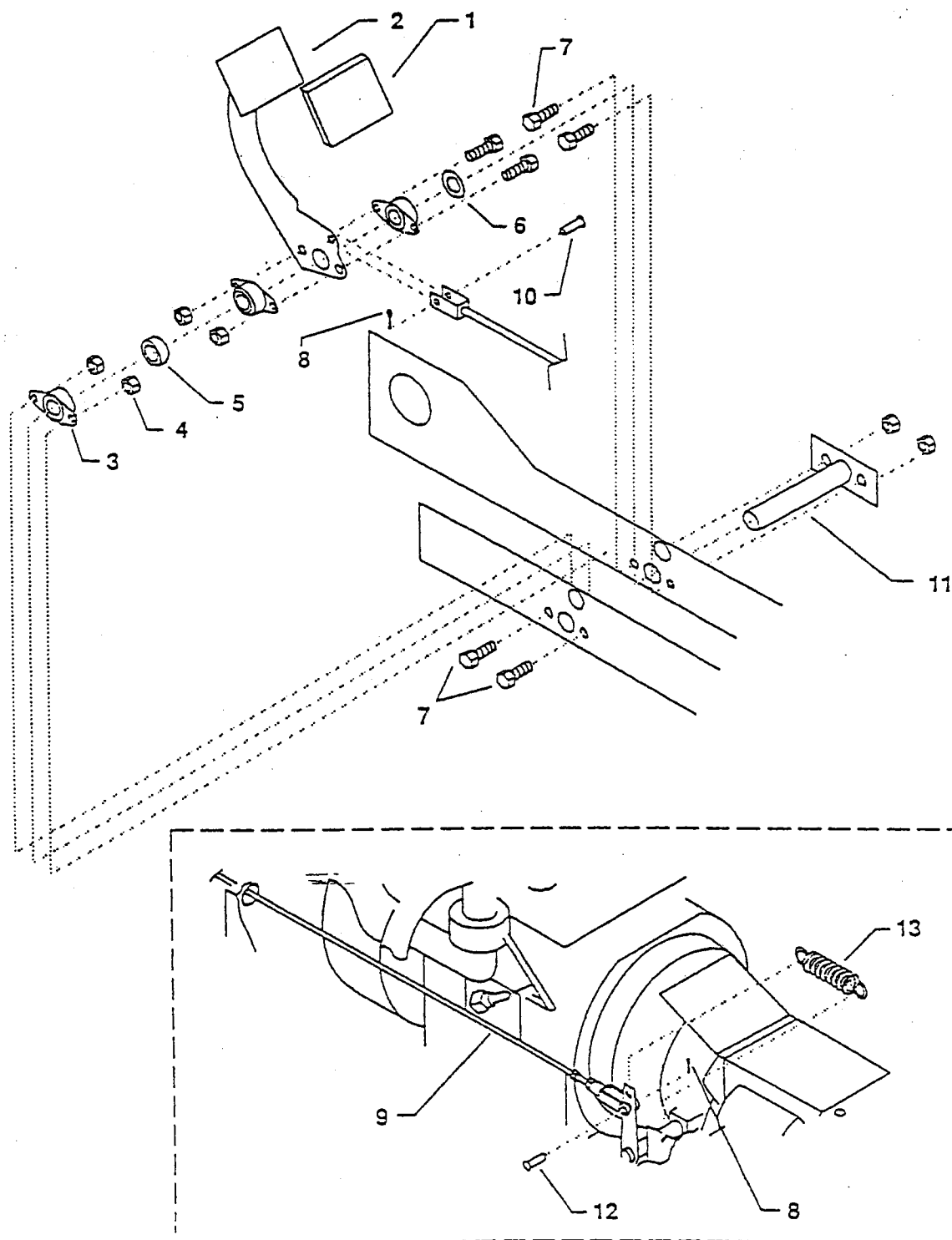
## CHOKE CABLE AND HORN





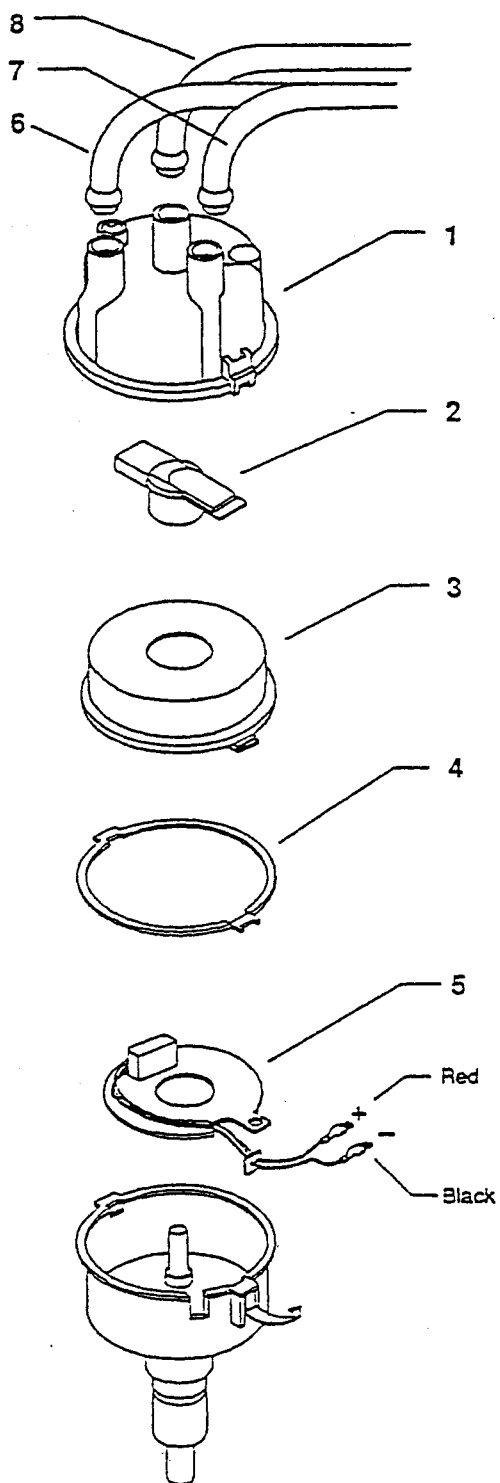
CHOKE CABLE AND HORN			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	96-860-01	Cable, Choke	1
2	73-004-00	Horn, 12 V	1
3	88-060-08	Screw, Hex Head, $\frac{1}{4}$ " x $\frac{5}{8}$ "	2
4	88-069-81	Locknut, Nylon, $\frac{1}{2}$ "	2
5a	00-660-00	Bracket, Suspension Stop, Long (B 6-60 only)	1
5b	00-660-24	Bracket, Suspension Stop, Short (B 6-60/61)	1
6	88-100-11	Screw, Hex Head, Cap, $\frac{3}{8}$ " x 1"	4
7	88-109-81	Locknut, NC, $\frac{3}{8}$ "	4
8	98-753-50 <b>05</b>	Rubber Stop	2

# CLUTCH PEDAL LINKAGE



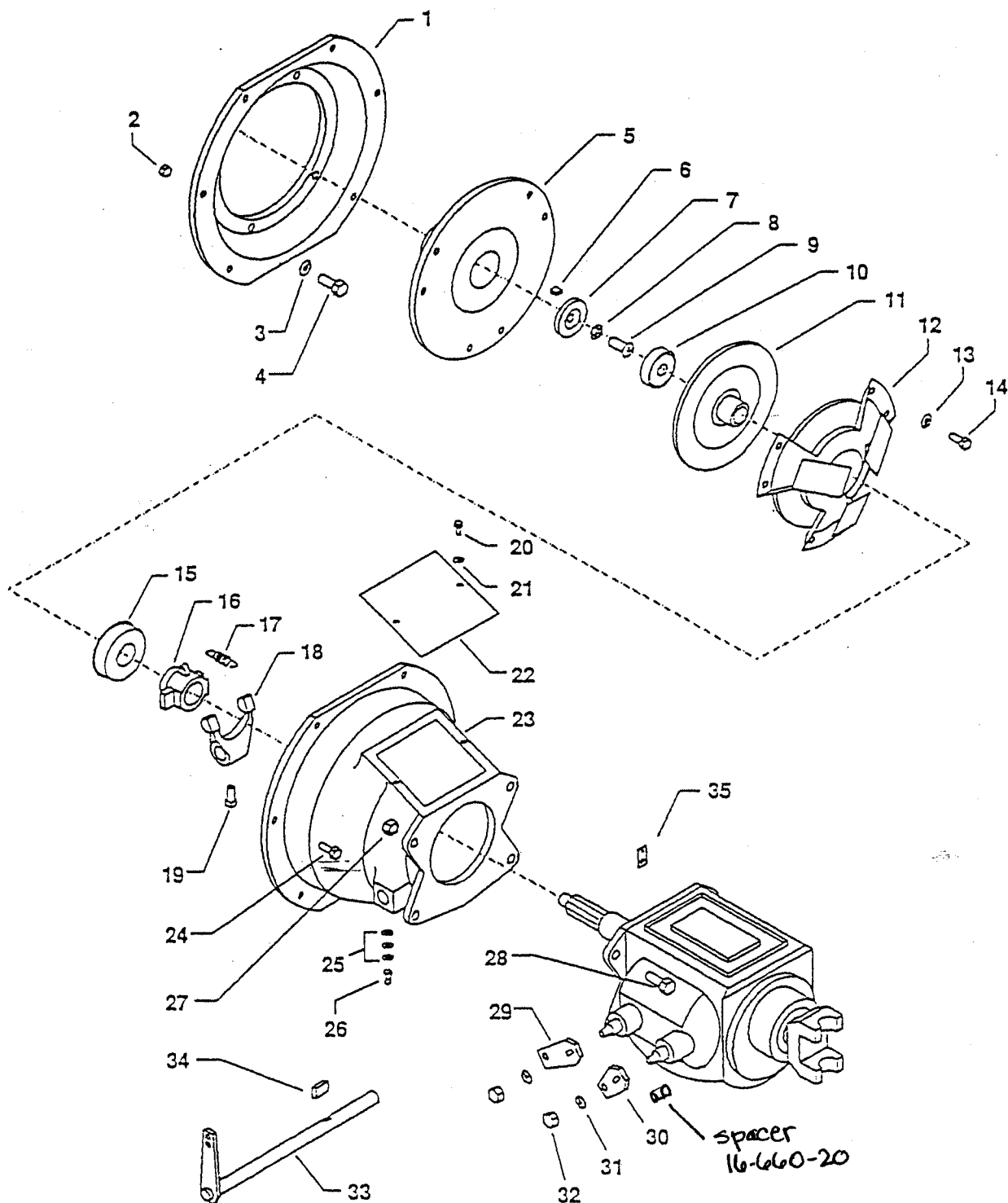
CLUTCH PEDAL LINKAGE			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	98-200-00	Pad, Pedal	1
2	00-660-07	Pedal, Clutch	1
3	80-410-20	Bearing, Flange	3
4	88-109-81	Locknut, NC, $\frac{3}{8}$ "	6
5	17-110-00	Collar, $\frac{3}{4}$ " Shaft	1
6	88-228-61	Washer, SAE, $\frac{3}{4}$ "	1
7	88-100-11	Screw, Hex Head, Cap, $\frac{3}{8}$ " x 1"	6
8	88-517-11	Pin, Steel Cotter, $\frac{3}{32}$ " x 1"	1
9	96-820-01	Cable, Clutch, 34 $\frac{1}{4}$ " to 37 $\frac{1}{4}$ "	1
10	96-772-00	Pin, Clevis, $\frac{3}{8}$ " x 1"	1
11	00-660-21	Shaft, Clutch Pedal	1
12	96-771-00	Pin, Clevis, $\frac{3}{8}$ " x $\frac{3}{4}$ "	1
13	85-270-00	Spring, Extension, 1 $\frac{1}{4}$ " x 4 $\frac{3}{8}$ "	1

## DISTRIBUTOR



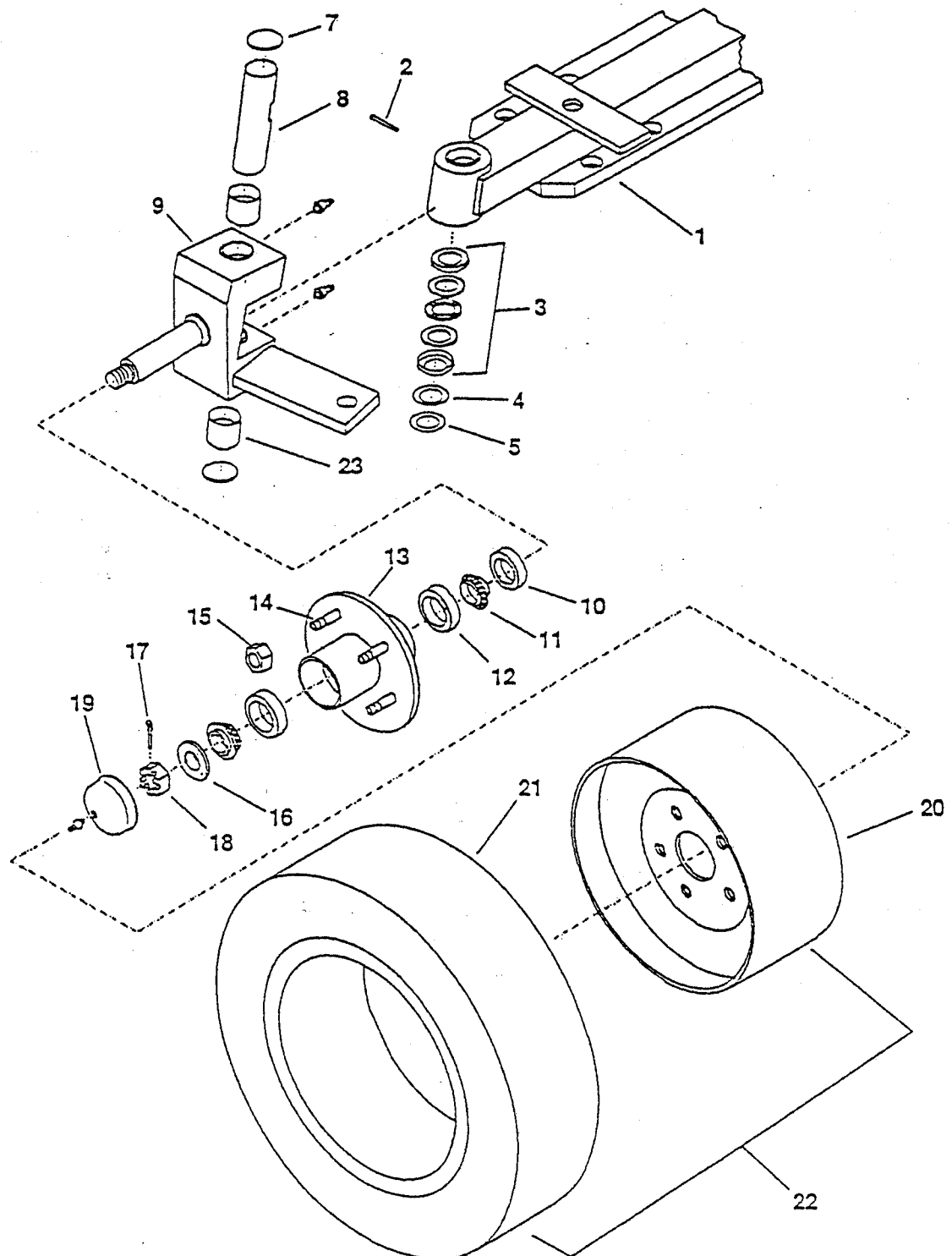
DISTRIBUTOR ASSEMBLY (66-005-00)			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	66-005-01	Cap, Distributor	1
2	66-005-02	Rotor, Distributor	1
3	66-005-04	Dust Cover, Distributor	1
4	66-005-05	Gasket, Distributor Cap	1
5	66-005-03	Electronic Module, Distributor	1
6	75-236-00	Cable, Spark Plug #1, 26" Long	1
7	75-236-01	Cable, Spark Plug #2, 24" Long	1
8	75-236-02	Cable, Distributor to Coil	1

# FLYWHEEL AND CLUTCH



FLYWHEEL AND CLUTCH			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	66-499-30	Housing, Flywheel	1
2	88-089-81	Locknut, $\frac{5}{16}$ "	5
3	88-128-62	Lockwasher, $\frac{7}{16}$ "	5
4	96-317-10	Screw, Hex Head, $\frac{7}{16}$ " x 1"	5
5	66-499-20	Flywheel	1
6	66-000-01	Key, Gasket	1
7	66-000-03	Washer, Flywheel	1
8	97-190-50	Lockwasher, $\frac{7}{16}$ "	1
9	96-303-50	Screw, Flathead, $\frac{7}{16}$ " x $1\frac{1}{4}$ "	1
10	80-660-01	Bearing, Flywheel	1
11	66-499-10	Clutch Plate	1
12	66-499-00	Clutch Plate, Pressure	1
13	88-088-62	Lockwasher, $\frac{5}{16}$ "	6
14	88-080-09	Screw, Hex Head, Cap, $\frac{5}{16}$ " x $\frac{3}{4}$ "	6
15	80-660-00	Bearing, Release Sleeve	1
16	66-499-60	Sleeve, Release	1
17	85-201-10	Spring, Extension	1
18	66-499-50	Yoke, Release Sleeve	1
19	96-317-20	Screw, Square Head, $\frac{5}{16}$ " x $\frac{1}{2}$ "	1
20	88-060-06	Screw, Hex Head, Cap, $\frac{1}{4}$ " x $\frac{1}{2}$ "	2
21	88-068-62	Lockwasher, $\frac{1}{4}$ "	2
22	66-499-71	Plate, Cover	1
23	66-499-40	Housing, Clutch	1
24	88-080-13	Screw, Hex Head, NC, $\frac{5}{16}$ " x $1\frac{1}{4}$ "	6
25	88-048-61	Washer, SAE, #10	6
26	87-071-00	Grease Fitting, $\frac{3}{16}$ "	2
27	88-130-86	Locknut, NF, $\frac{7}{16}$ "	4
28	88-130-14	Screw, Hex Head, NF, $\frac{7}{16}$ " x $1\frac{1}{2}$ "	4
29	66-500-02	Lever, Shift, 2nd and 3rd	1
30	66-500-03	Lever, Shift, 1st and Reverse	1
31	88-088-62	Lockwasher, $\frac{5}{16}$ "	2
32	88-089-80	Nut, Hex Head, NC, $\frac{5}{16}$ "	2
33	66-499-70	Weldment, Shaft, Clutch Yoke	1
34	97-100-00	Woodruff Key, $\frac{3}{16}$ "	1
35	66-500-01	Tab, Return Spring	1

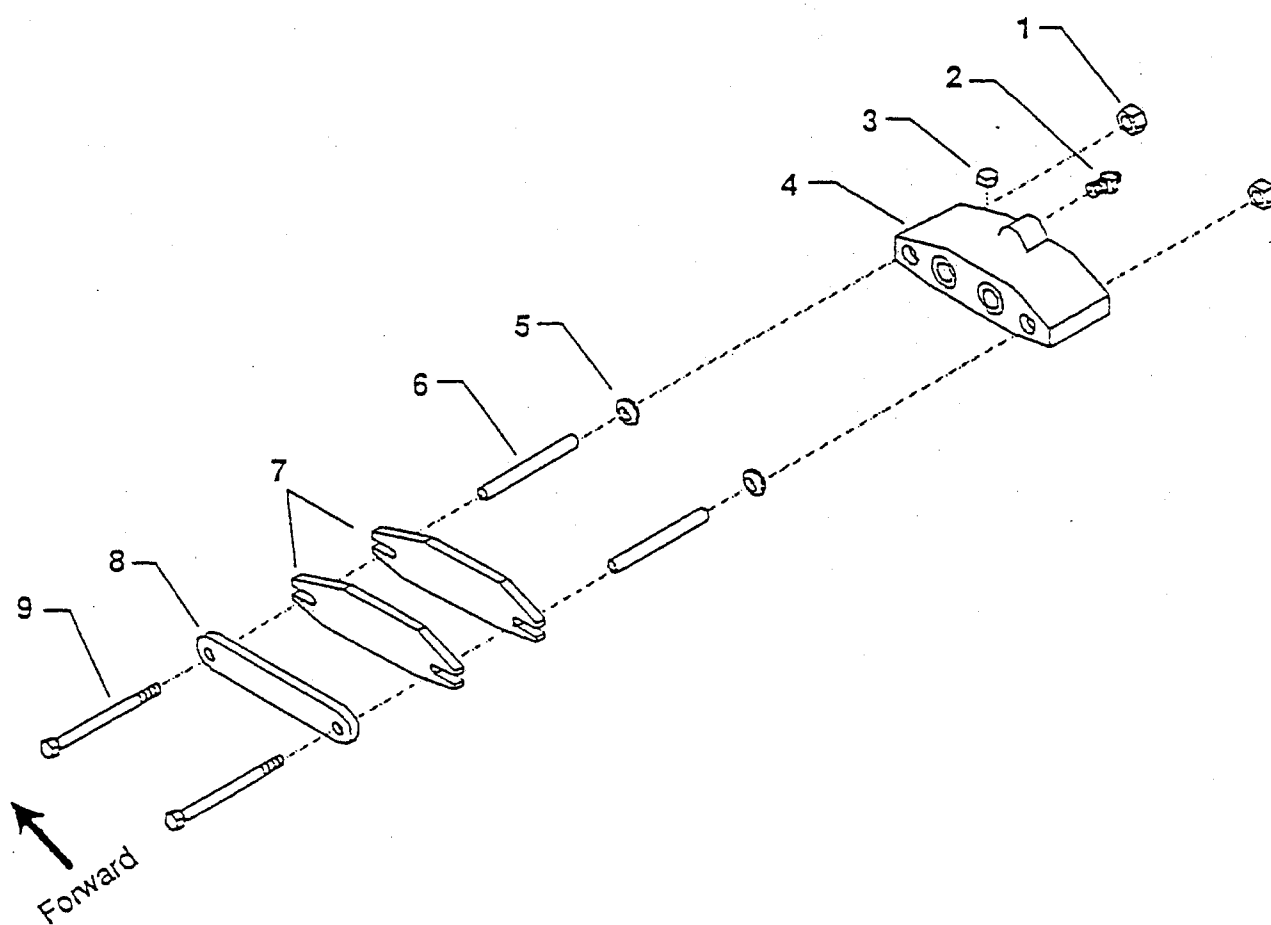
# FRONT AXLE





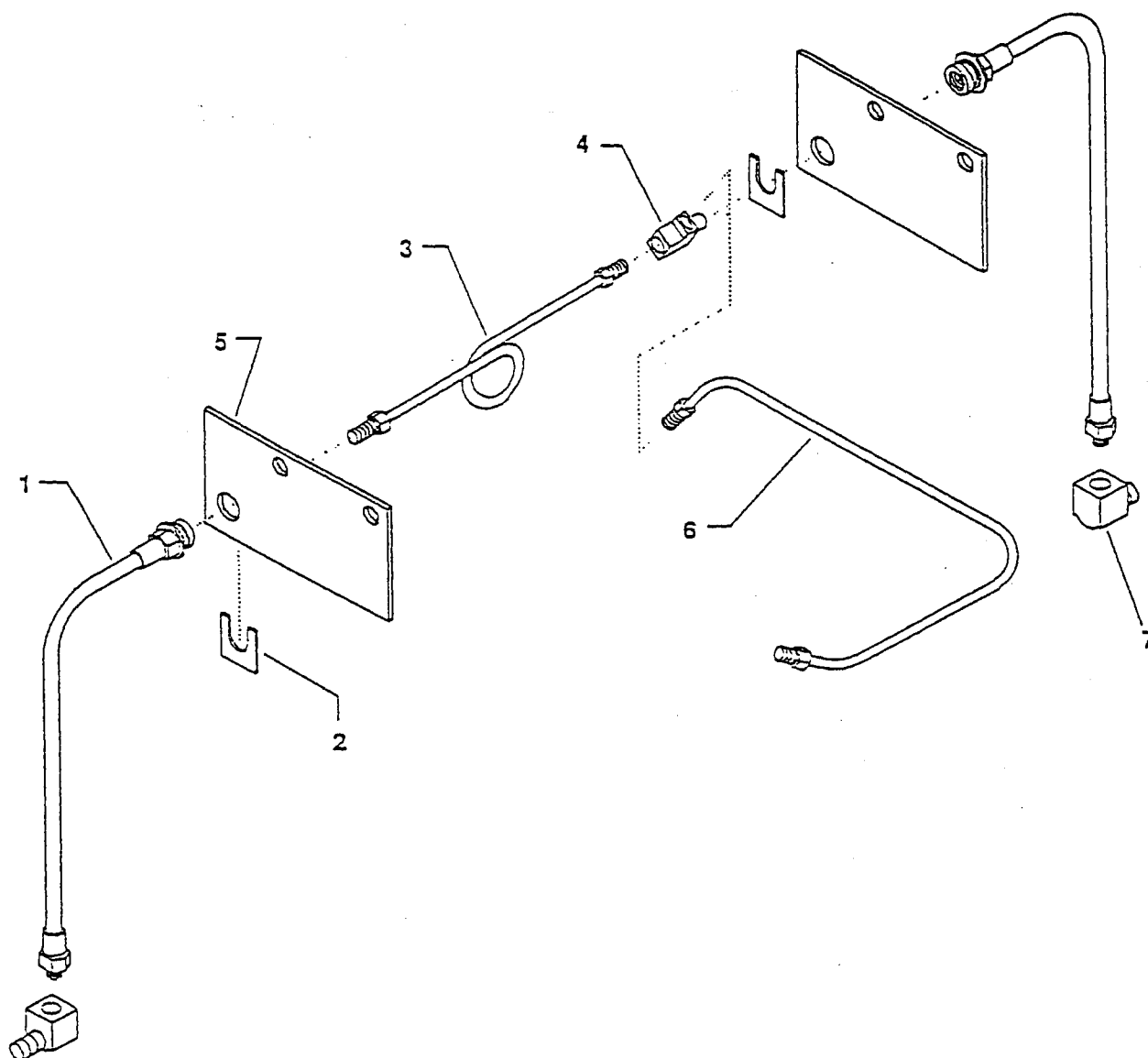
FRONT AXLE ASSEMBLY KIT (15-660-00)			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	15-660-10	Weldment, Axle Tube	1
2	88-708-10	Pin, Taper, 6" x 2 1/2"	2
3	80-309-10	Pack Bearing Assembly	2
4	16-515-03	Shim, .003"	•
5	16-515-08	Shim, .010"	•
6	87-071-00	Grease Fitting, 3/16"	6
7	97-198-10	Plug, Expansion, 1 1/8" Diameter	2
8	21-021-00	Kingpin	2
9a	14-660-98	Weldment, Knuckle, Left	1
9b	14-660-99	Weldment, Knuckle, Right (not shown)	1
10	45-307-00	Oil Seal, Bearing	2
11	80-011-00	Bearing, Tapered Roller	4
12	80-102-00	Bearing Race, Tapered, Front Wheel	4
13	12-115-10	Hub, Front Wheel Assembly	2
14	96-329-00	Lug Bolt, Wheel Hub	10
15	97-236-00	Lug Nut, Wheel Hub	10
16	88-228-60	Washer, Cut, 3/4"	2
17	88-527-14	Pin, Steel Cotter	2
18	88-239-85	Nut, Hex Head, Slotted, 3/4"	2
19	92-105-10	Dust Cap (with grease fitting)	2
20a	12-055-10	Wheel, Solid Cushion	2
20b	12-042-00	Wheel, Pneumatic (B 6-60 only)	2
21a	10-262-00	Tire, Solid Cushion	2
21b	10-088-00	Tire, Pneumatic (B 6-60 only)	2
22a	13-957-11	Tire and Wheel Assembly, Solid Cushion	2
22b	13-745-00	Tire and Wheel Assembly, Pneumatic (B 6-60 only)	2
23	32-204-10	Bushing, 7/8" ID x 1 1/8" OD	4
* Quantity as required			

## FRONT BRAKE ASSEMBLY



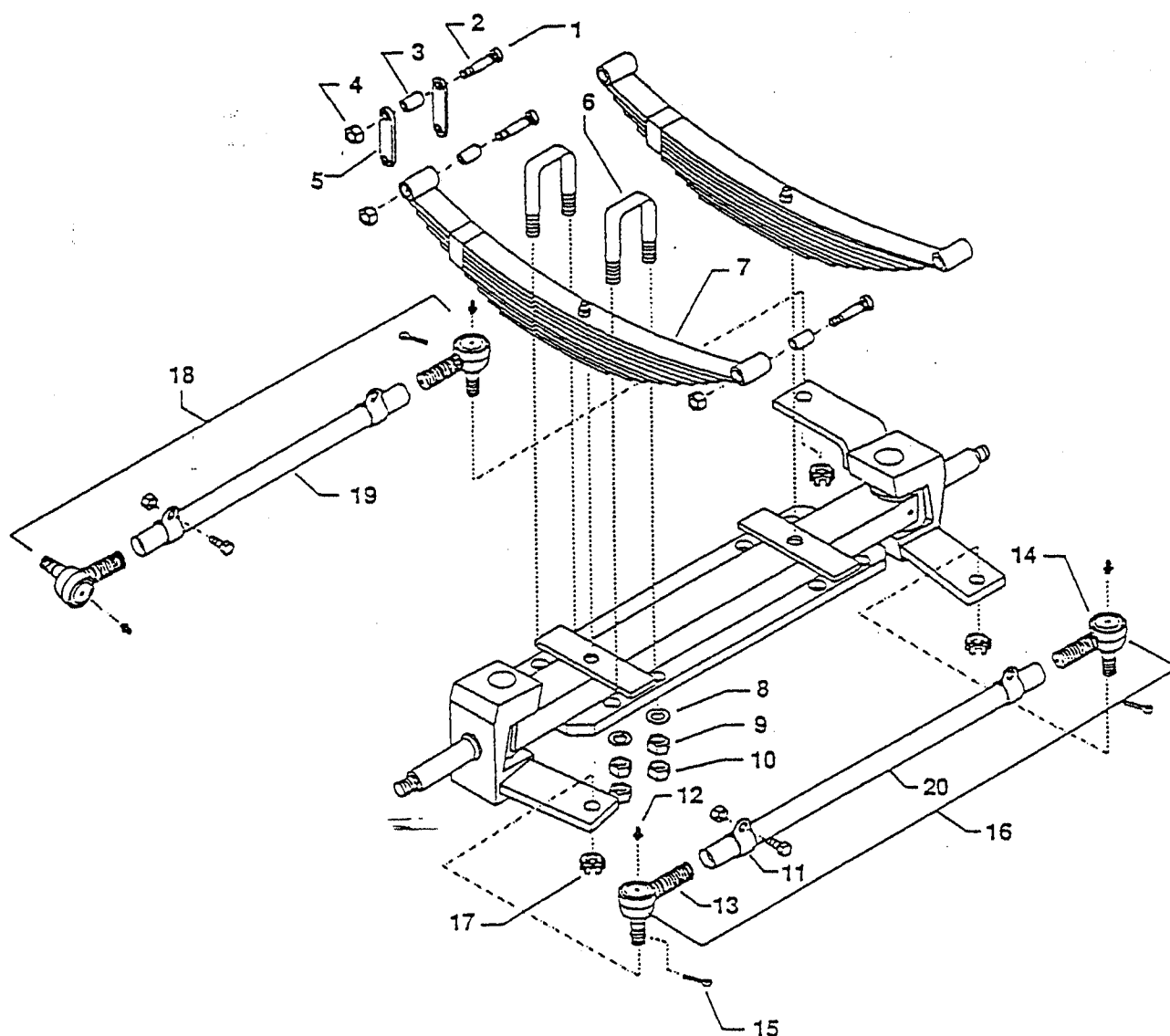
FRONT BRAKE ASSEMBLY			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	88-069-82	Locknut, 1/4"	4
2	99-588-00	Screw and Adapter, Brake Bleeder, Front	2
3	41-886-00	Plug, Hex Head Socket	2
4	41-350-30	Brake Body, Hydraulic Assembly	2
5	32-240-42	Bushing, Plastic, 3/8"	4
6	41-348-52	Spacer, Disc Brake, Hydraulic	4
7	41-348-70	Pad, Disc Brake, Hydraulic	4
8	41-350-51	Plate, Secondary	2
9	88-067-21	Bolt, Hex Head, NC, 1/4" (Grade 8)	4

## FRONT BRAKE LINES



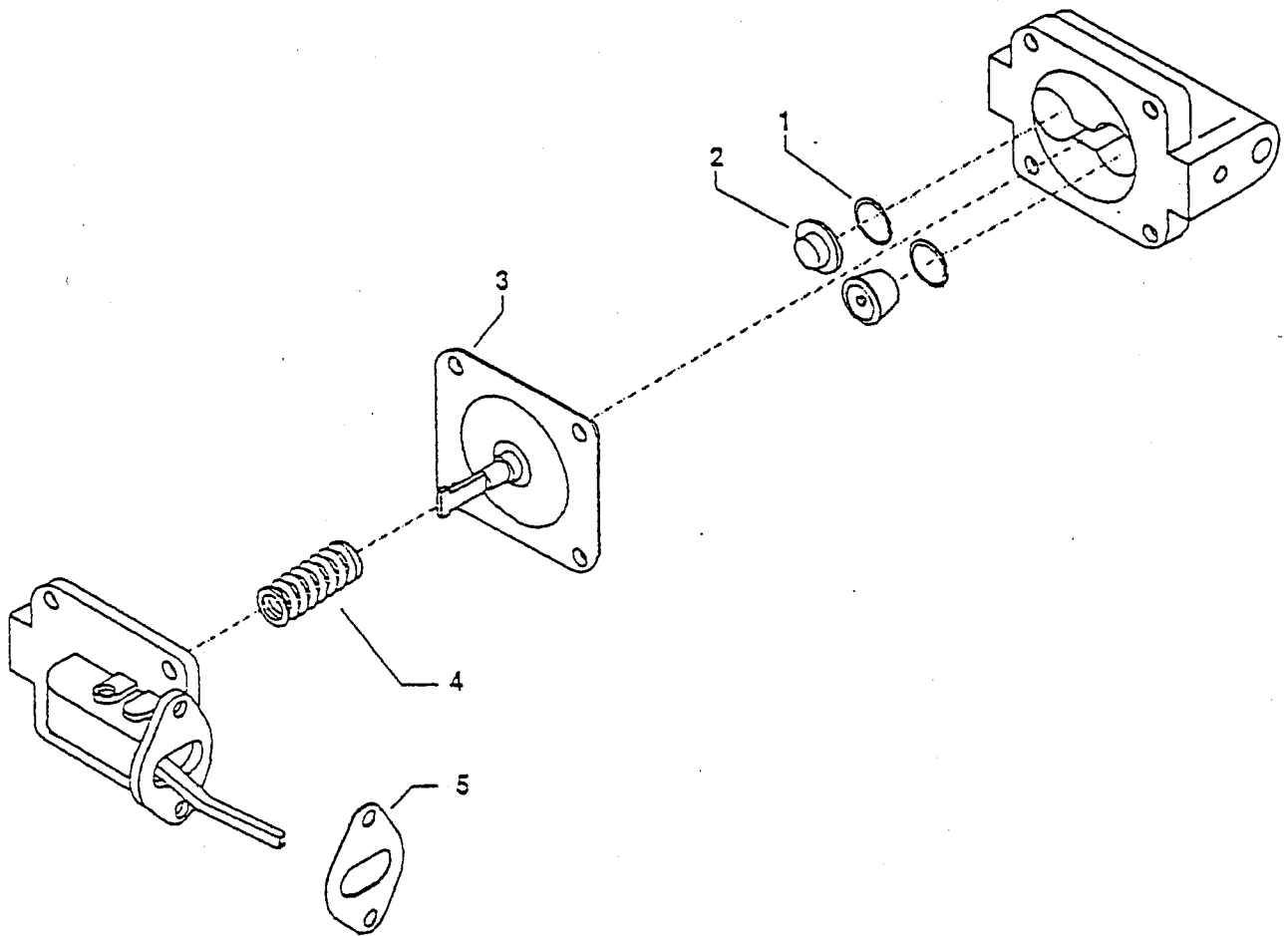
FRONT BRAKE LINES			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	99-580-20	Hose (with 1/8" nut), Male	2
2	99-576-00	Clip	2
3	99-603-58	Brake Line, 3/16" Front	1
4	99-559-00	T-Fitting	1
5	99-585-10	Bracket, Front Brake Hose	2
6	99-604-62	Brake Line, 3/16" Front	1
7	96-154-12	Elbow, NPT, 1/8"	2
8	99-565-00	Fitting, Master Cylinder, Brass	1

# FRONT AXLE SUSPENSION



FRONT AXLE SUSPENSION ASSEMBLY			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	87-071-00	Grease Fitting, 3/16"	6
2	96-248-01	Bolt, Shackle	6
3	32-213-00	Bushing, Nylon	6
4	88-169-82	Locknut, 9/16"	6
5a	16-870-10	Strap, Shackle, 2 1/4"	4
5b	16-871-02	Strap, Shackle, 3 1/2"	4
6	96-118-00	U-Bolt	4
7	85-503-00	Leaf Spring, 9", Front	2
8	88-148-61	Washer, SAE, 1/2"	8
9	88-149-80	Nut, Hex Head, 1/2"	8
10	88-149-81	Locknut, 1/2"	8
11	86-510-00	Clamp Assembly, Ball Joint	4
12	87-074-00	Grease Fitting, 1/4"	4
13	86-501-98	Ball Joint, Left	2
14	86-501-99	Ball Joint, Right	2
15	88-527-11	Pin, Steel Cotter	4
16	18-045-10	Steering Arm Assembly (with ball joints)	1
17	88-159-85	Nut, Hex Slotted, NF, 1/2"-20	4
18	18-029-10	Steering Sleeve Assembly (with ball joints)	1
19	18-029-00	Steering Sleeve Only (13")	1
20	18-045-00	Steering Sleeve Only (15 3/4")	1

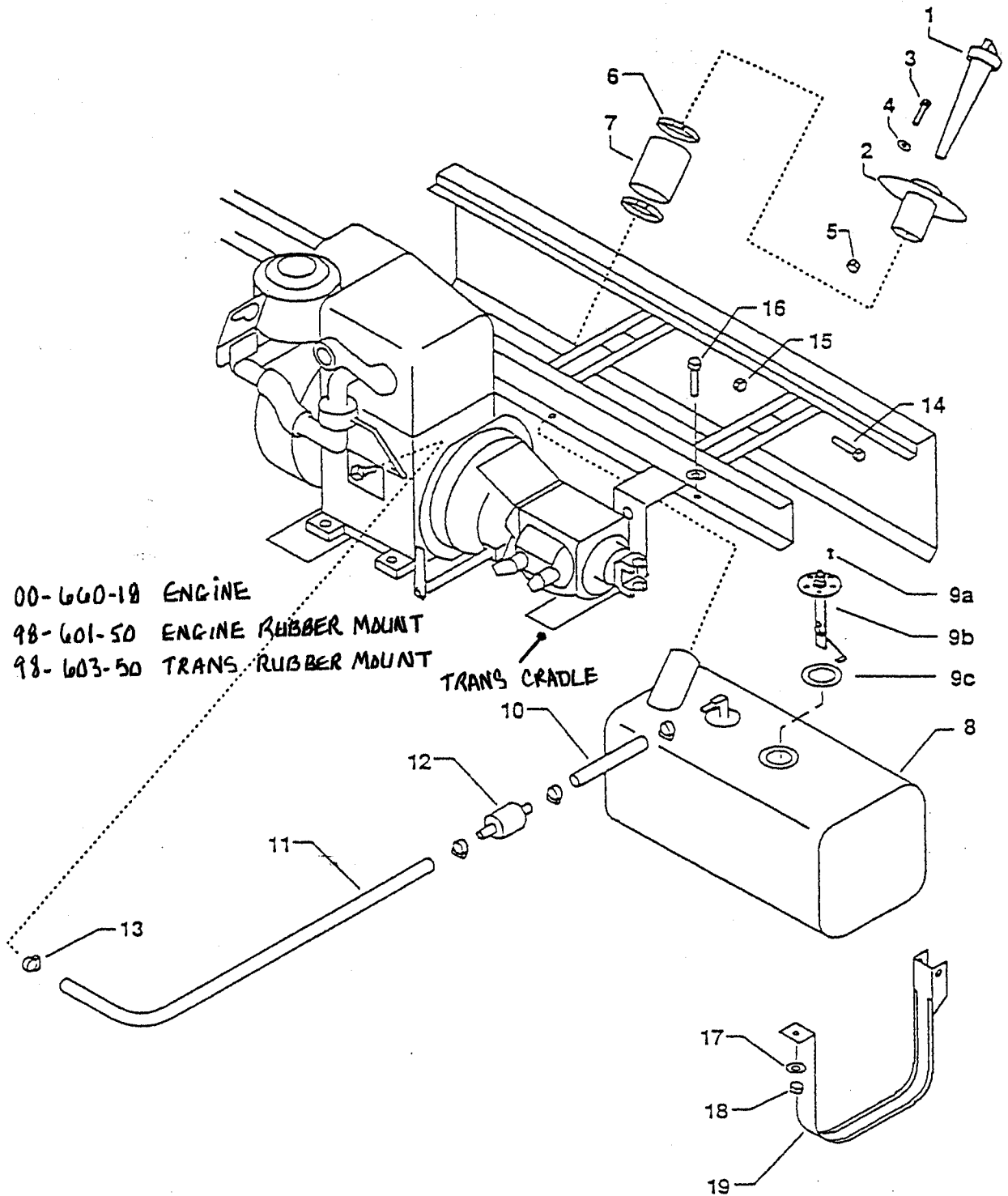
# FUEL PUMP





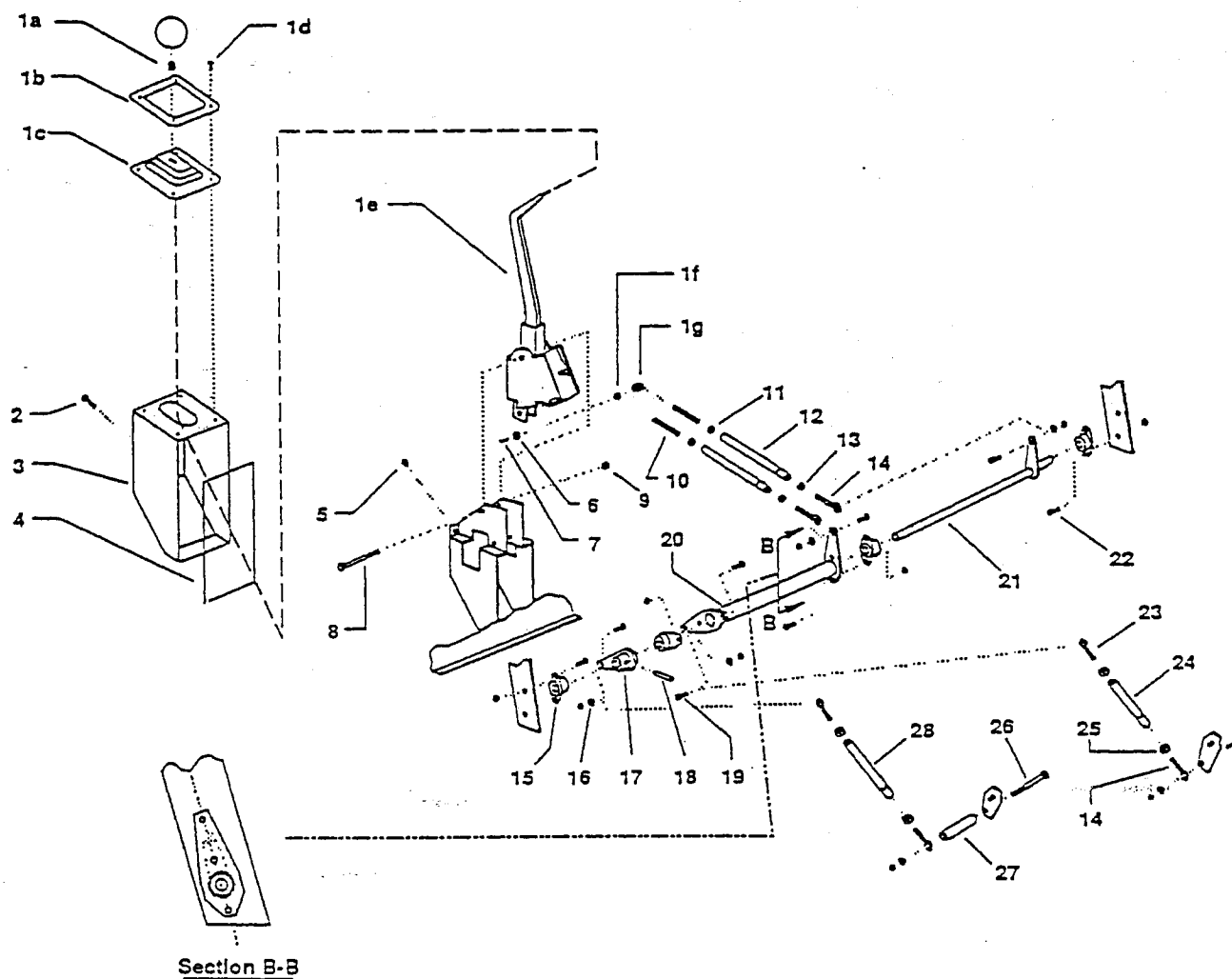
FUEL PUMP (66-003-00)			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	66-003-60	Gaskets, Valve and Gauge	2
2		Assembly, Valve and Gauge	2
3		Diaphragm, Assembly	1
4		Spring, Diaphragm	1
5		Gasket, Mounting Flange	1

# FUEL TANK



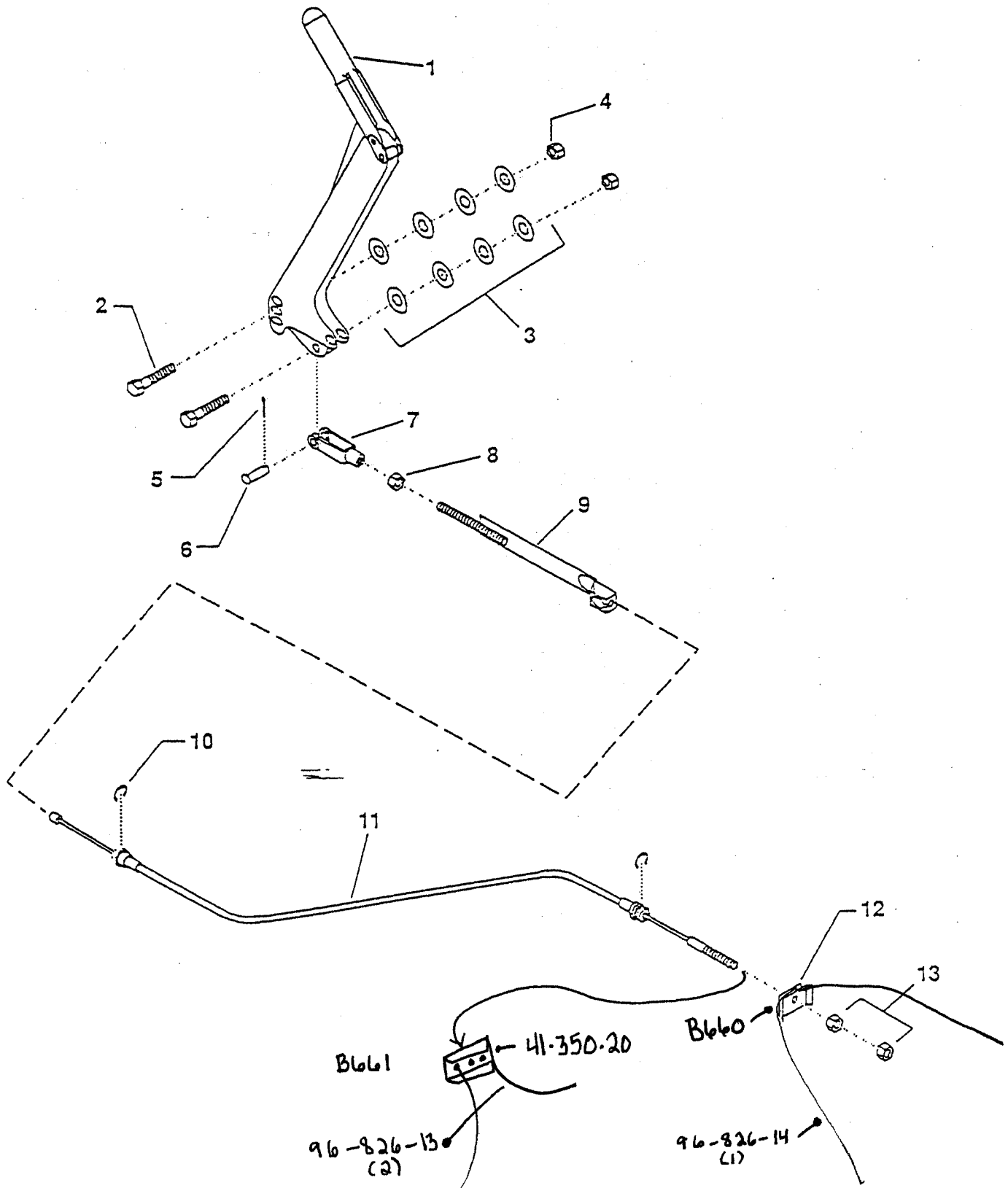
FUEL TANK			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	66-410-10	Cap, Fuel	1
2	66-410-30	Filler, Fuel	1
3	88-060-06	Screw, Hex Head, Cap, 1/4" x 1/2"	3
4	88-068-61	Washer, SAE, 1/4"	3
5	88-069-81	Locknut, Nylon, 1/4"	3
6	96-608-01	Clamp	2
7	98-513-01	Hose, Fuel	1
8	66-410-00	Fuel Tank	1
9a	74-009-24	Sender Element, Fuel Tank	1
9b	74-009-23	Sender, Mounting Hardware	1
9c	74-009-22	Gasket, Sender, Fuel Tank	1
10	98-512-06	Fuel Line, 6"	1
11	98-512-28	Fuel Line, 29"	1
12	05-210-02	Filter, Fuel	1
13	96-608-10	Clamp, Fuel Line	4
14	88-080-19	Bolt, Hex Head, NC, 5/16" x 2 3/4"	2
15	88-089-81	Locknut, 5/16"	2
16	88-100-11	Screw, Hex Head, Cap, 3/8" X 1"	2
17	88-108-61	Washer, SAE, 3/8"	4
18	88-109-81	Locknut, NC, 3/8"	2
19	66-410-20	Strap, Tank	2

# GEAR SHIFT LINKAGE



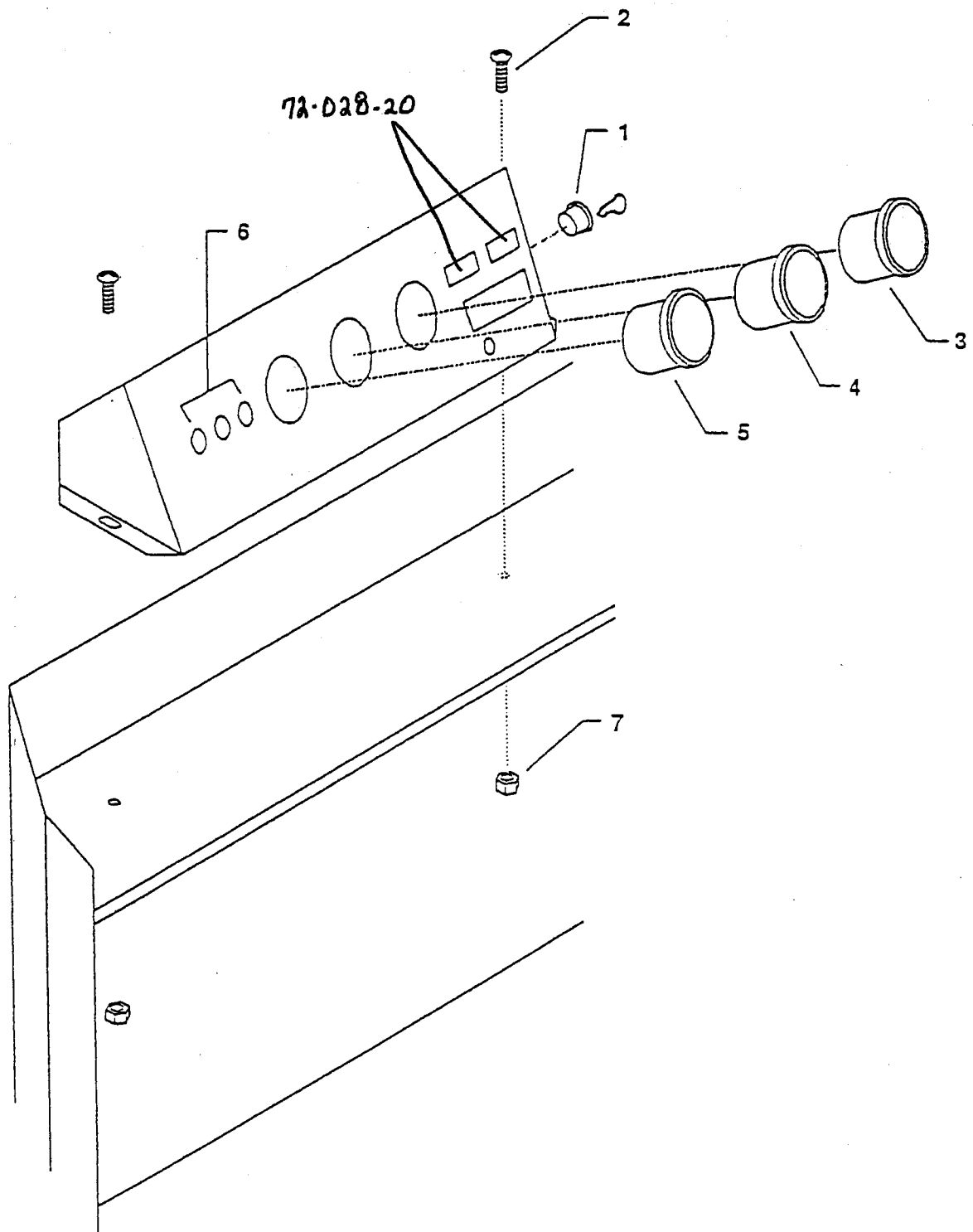
GEAR SHIFT LINKAGE			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	66-510-60 (Parts not sold separately)	Kit, Gear Shift and Mounting	1
1a		Screw, Gear Shift Knob	1
1b		Plate Cover, Rubber, Gear Shift	1
1c		Cover, Rubber, Gear Shift	1
1d		Screws, Gear Shift Mounting	4
1e		Gear Shifter and Linkage	1
1f		Lockwasher, Shifter Mounting	1
1g		Screw, Shifter Mounting	1
2	88-065-09	Screw, Truss Head, 1/4" x 3/4"	2
3	66-510-40	Cover, Gear Shifter	1
4	98-451-20	Tape, Foam, Shifter Cover	1
5	97-211-10	Nut, Retainer, 1/4"	2
6	88-108-61	Washer, SAE, 3/8"	2
7	88-517-11	Pin, Steel Cotter, 3/32" x 1"	2
8	88-101-20	Bolt, Hex Head, 3/8" x 3"	2
9	88-109-81	Locknut, NC, 3/8"	16
10	50-026-00	Rod, NF, 3/8" x 3"	2
11	88-119-80	Nut, Hex, 3/8"	4
12	50-066-20	Rod, NF, 3/8" x 23 1/2"	2
13	97-202-50	Nut, LH, 3/8"	2
14	86-519-11	Rod End, NF, Left, 3/8"	4
15	80-410-20	Bearing, Flange	4
16	88-108-60	Washer, Cut, 3/8"	6
17	00-660-25	Weldment, Tab	1
18	88-707-13	Pin, Tension, 1/4" x 1 1/4"	1
19	88-100-11	Screw, Hex Head, Cap, 3/8" x 1"	4
20	00-660-27	Weldment, Cross Tube	1
21	00-660-26	Weldment, Cross Shaft	1
22	88-100-09	Screw, Hex Head, 3/8" x 3/4"	8
23	86-519-10	Rod End, NF, Right, 3/8"	2
24	50-066-05	Rod, NF, 3/8" x 8 1/8"	1
25	97-202-50	Nut, LH, 3/8"	2
26	88-101-18	Bolt, Hex Head, 3/8" x 2 1/2"	1
27	16-660-20	Spacer, Shift Lever	1
28	50-066-10	Rod, NF, 3/8" x 10 3/4"	1

# HAND BRAKE LINKAGE



HAND BRAKE LINKAGE			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	51-340-00	Lever, Hand Brake	1
2	88-101-16	Screw, Hex Head, Cap, $\frac{3}{8}$ " x 2"	2
3	88-108-60	Washer, Cut, $\frac{3}{8}$ "	8
4	88-109-81	Locknut, NC, $\frac{3}{8}$ "	2
5	88-517-11	Pin, Steel Cotter, $\frac{3}{32}$ " x 1"	1
6	96-772-00	Pin, Clevis, $\frac{3}{8}$ " x 1"	1
7	96-762-00	Clevis	1
8	88-119-80	Nut, Hex, $\frac{3}{8}$ "	1
9	00-660-28	Linkage, Hand Brake	1
10	88-847-06	Retainer, E Ring, $\frac{1}{2}$ "	2
11	41-348-71	Cable, Hand Brake	1
12	41-311-20	Equalizer	1
13	88-089-80	Nut, Hex Head, NC, $\frac{5}{16}$ "	2

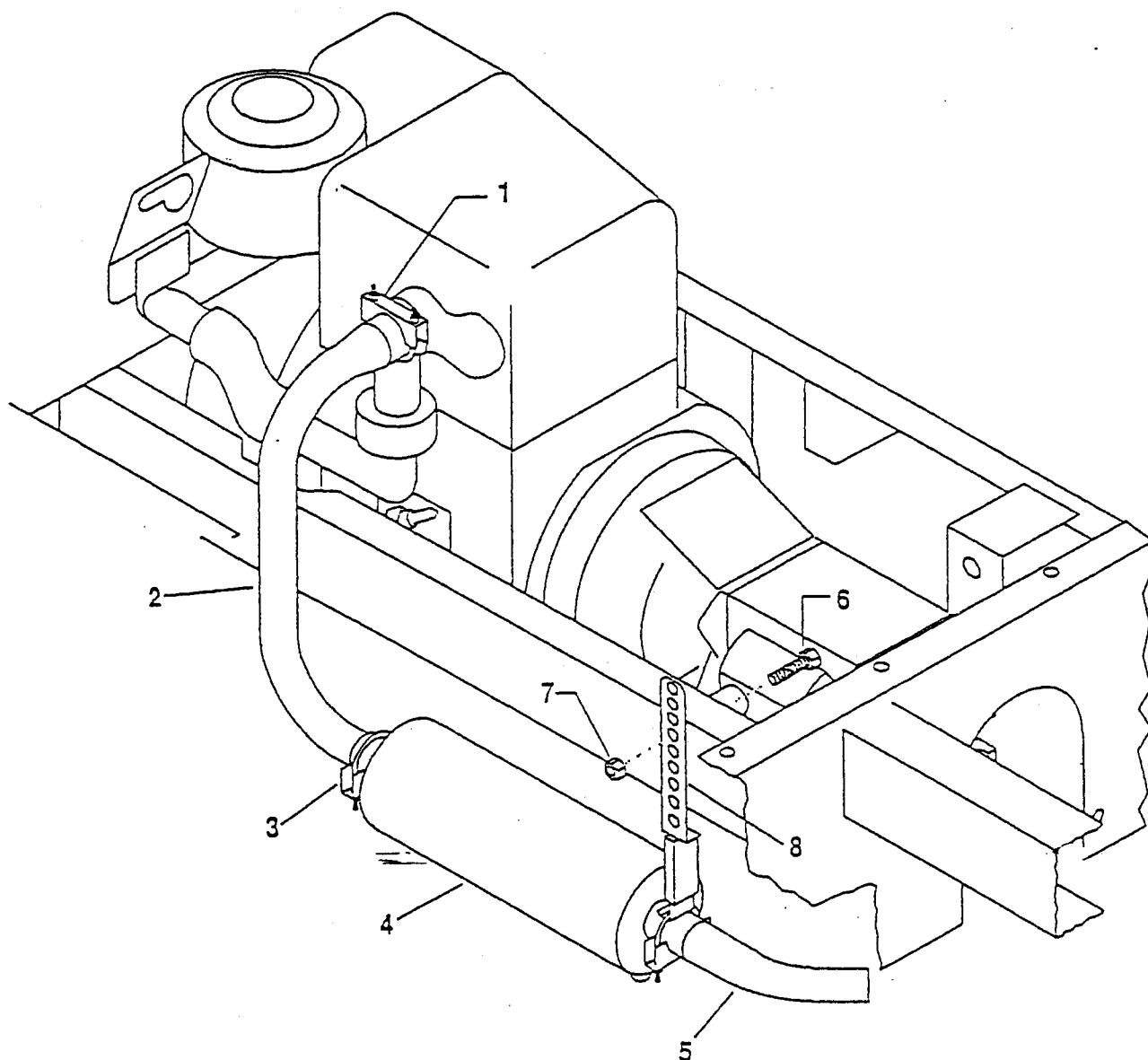
# INSTRUMENT PANEL





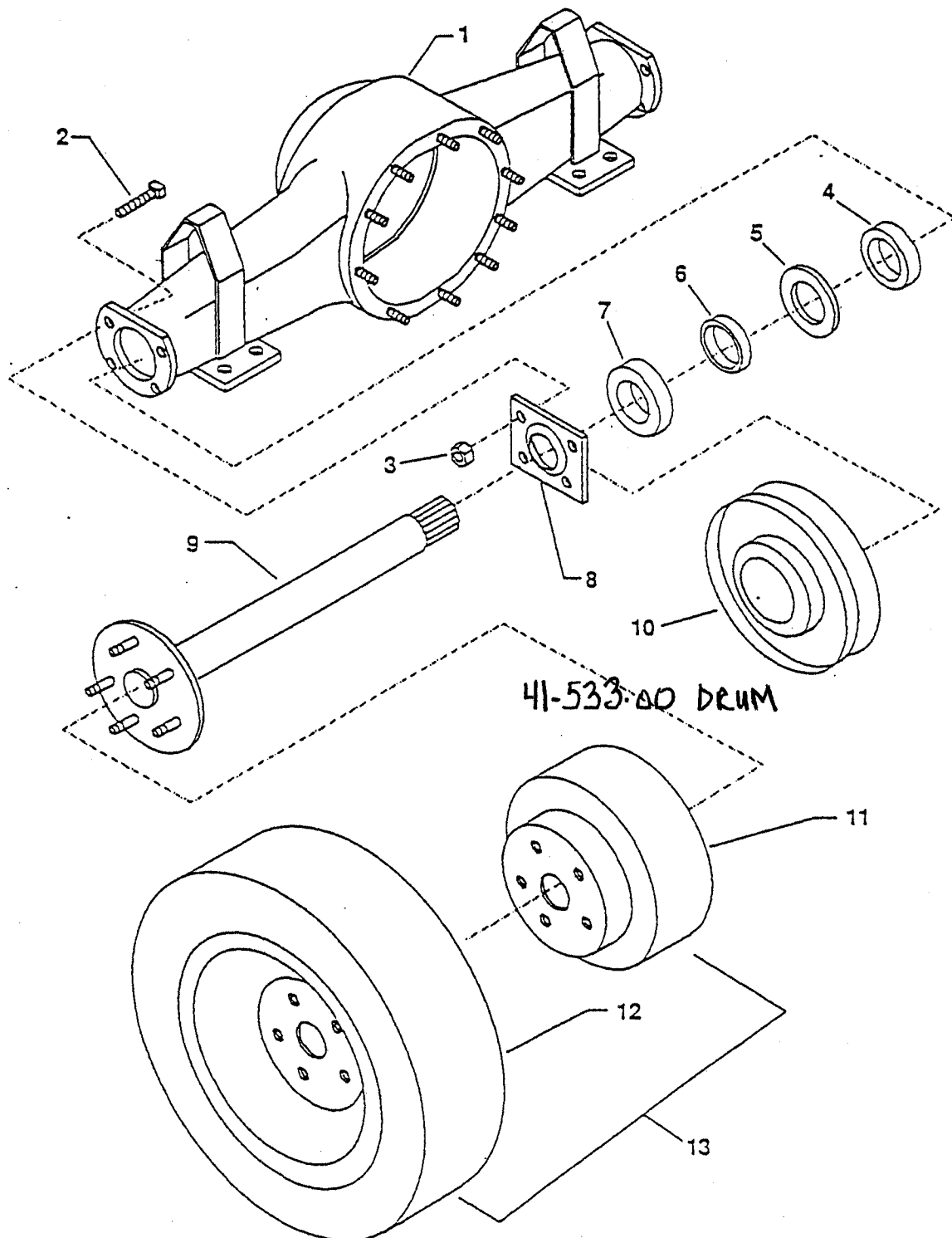
INSTRUMENT PANEL (00-660-13)			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	71-120-01	Switch, Ignition	1
2	88-065-08	Screw, Truss Head, NC, 1/4" x 5/8"	2
3	74-000-00	Meter, Hour	1
4	74-009-20	Fuel Gauge	1
5	79-853-20	Meter, A mos	1
6	71-100-00	Switch, Toggle	3
7	88-069-87	Nut, Keps, 1/4"	2

## MUFFLER AND EXHAUST



MUFFLER AND EXHAUST SYSTEM			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	96-125-02	Clamp, Exhaust	1
2	66-400-50	Pipe, Exhaust	1
3	96-125-01	Clamp, Exhaust	2
4	66-400-00	Muffler	1
5	66-400-51	Pipe, Tail	1
6	88-100-09	Screw, Hex Head, $\frac{3}{8}$ " x $\frac{1}{4}$ "	1
7	88-109-81	Locknut, NC, $\frac{3}{8}$ "	1
8	66-400-53	Pipe Hanger, Exhaust	1

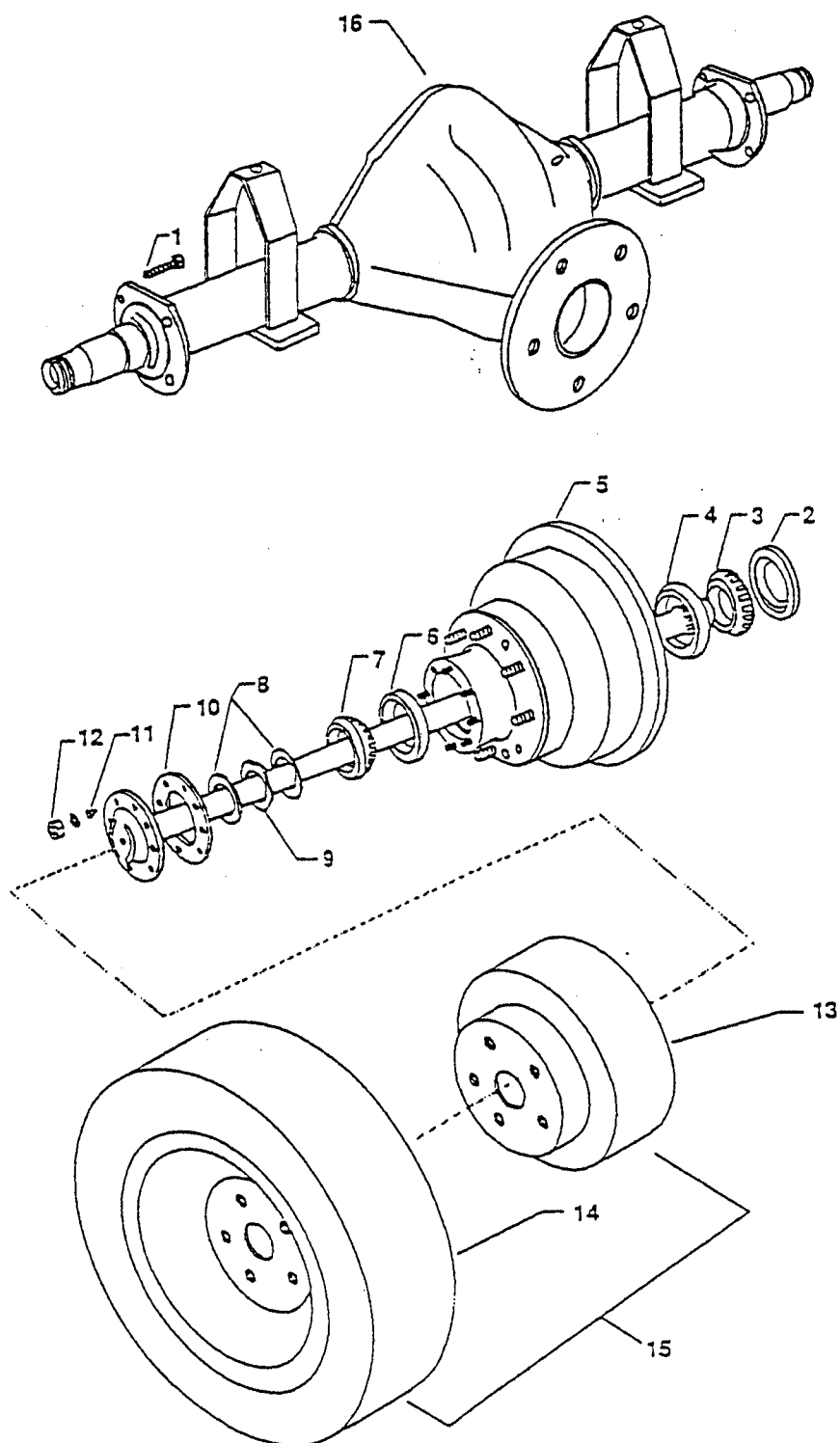
## REAR AXLE (B 6-60)



REAR AXLE ASSEMBLY (B 6-60)			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	41-291-40	Housing, Rear Axle	1
2	96-330-30	T-Bolt, UNF, 1/2"-20	8
3	88-159-84	Locknut, NF, 1/2"	8
4	45-301-00	Oil Seal, Bearing	2
5	45-045-00	Gasket, Rear Axle	2
6	32-515-00	Ring, Retainer, Rear Axle	2
7	80-503-00	Ball Bearing, Rear Axle	2
8	32-514-02	Plate, Retainer, Rear Axle	2
9	41-152-01	Shaft, Rear Axle	2
10a	41-311-58	Backing Plate, Brake, Left	1
10b	41-311-59	Backing Plate, Brake, Right	1
11	<del>42-055-10</del>	<del>Wheel, Solid Cushion</del> → 41-533-00 BRAKE DRUM	2
12	10-262-00	Tire, Solid Cushion	4
13a	13-957-11	Tire and Wheel Assembly, Solid Cushion	2
13b	13-755-20	Tire and Wheel Assembly, Pneumatic, Rear	2

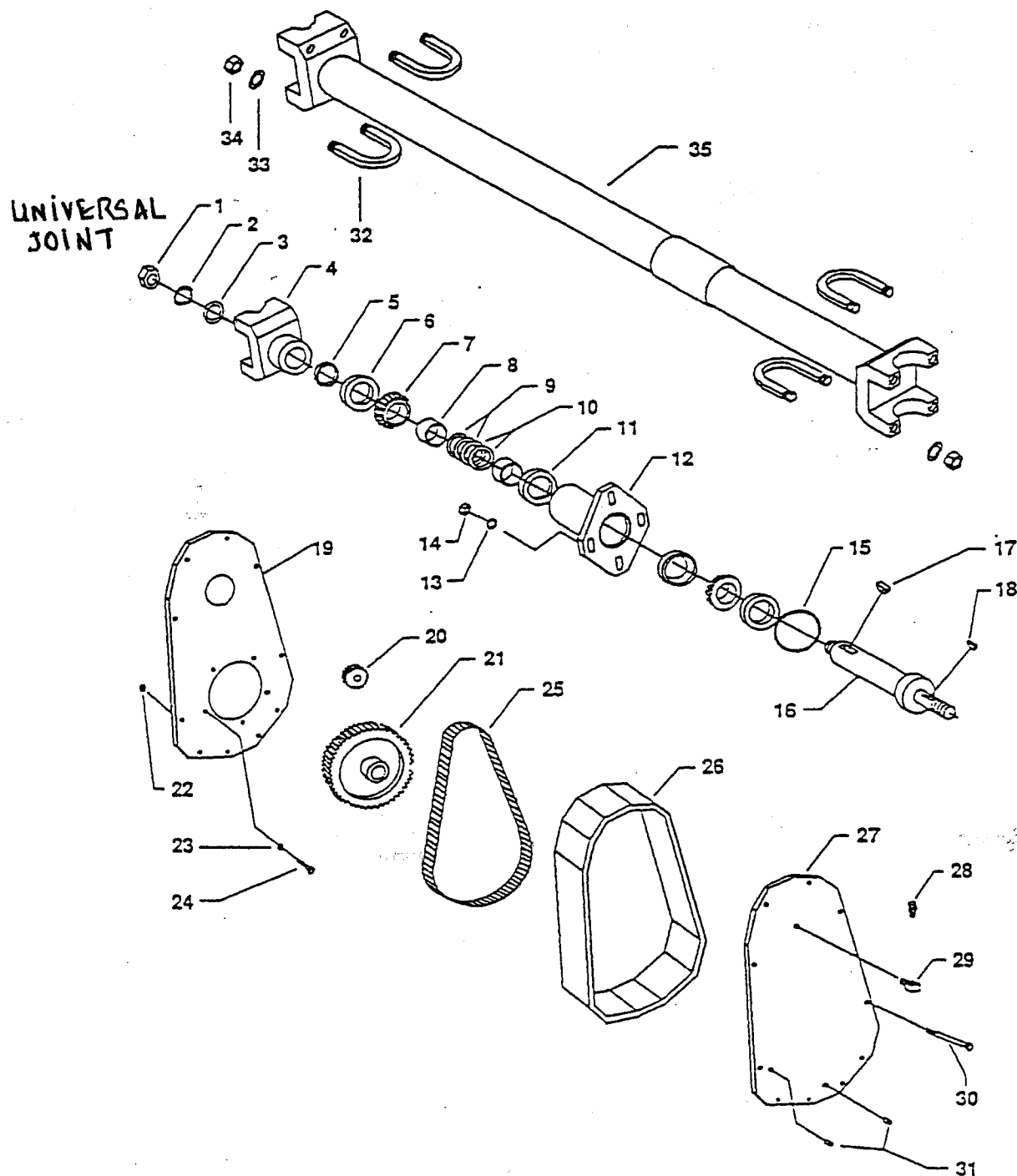
-- 10-080-00 TIRE ONLY  
 -- 12-055-10 WHEEL ONLY

## REAR AXLE (B 6-61)



REAR AXLE ASSEMBLY (B 6-61)			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	41-682-00	Bolt, Mounting, Backing Plate	8
2	45-337-01	Seal, Hub	2
3	80-530-00	Bearing, Inner Hub	2
4	80-135-00	Race, Bearing, Inner Hub	2
5	12-225-10	Assembly, Hub (with Drum Bearing Race and Studs)	2
6	80-134-00	Race, Bearing, Outer Hub	2
7	80-529-00	Bearing, Outer Hub	2
8	41-870-00	Locknut, Bearing, Outer Hub	4
9	41-871-00	Lockwasher, Bearing, Outer Hub	2
10	45-043-00	Gasket, Axle to Hub	2
11	95-450-00	Dowel, Tapered, 7/16"	16
12	88-130-86	Locknut, NF, 7/16"	24
13	12-055-00	Wheel, Solid Cushion	2
14	10-263-00	Tire, Solid Cushion	4
15	13-958-10	Tire and Wheel Assembly, Solid Cushion	2
16	41-883-00 <i>25</i>	Housing and Gears (no Axles or Brakes)	1

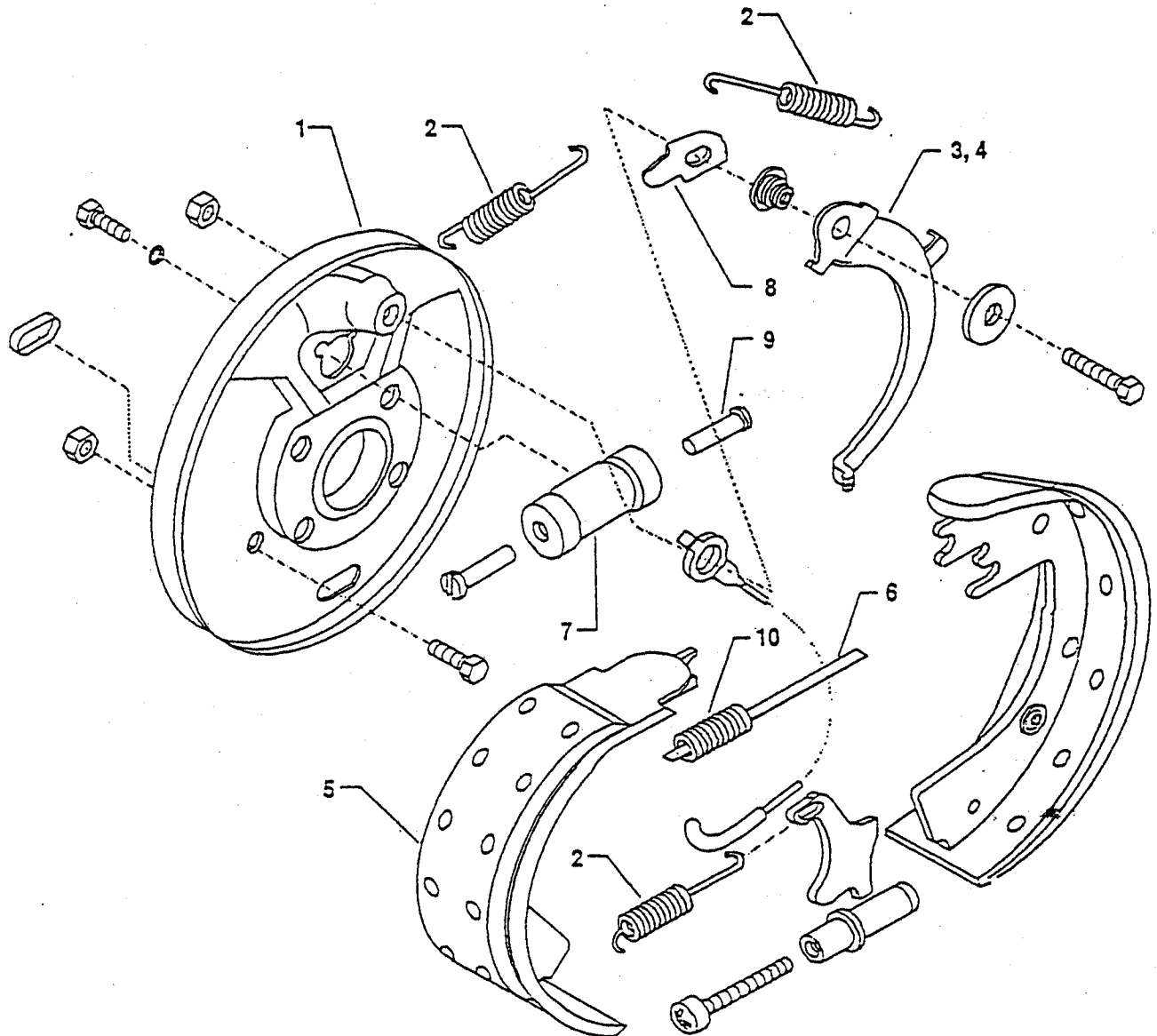
# REAR AXLE TRANSFER CASE AND DRIVE SHAFT





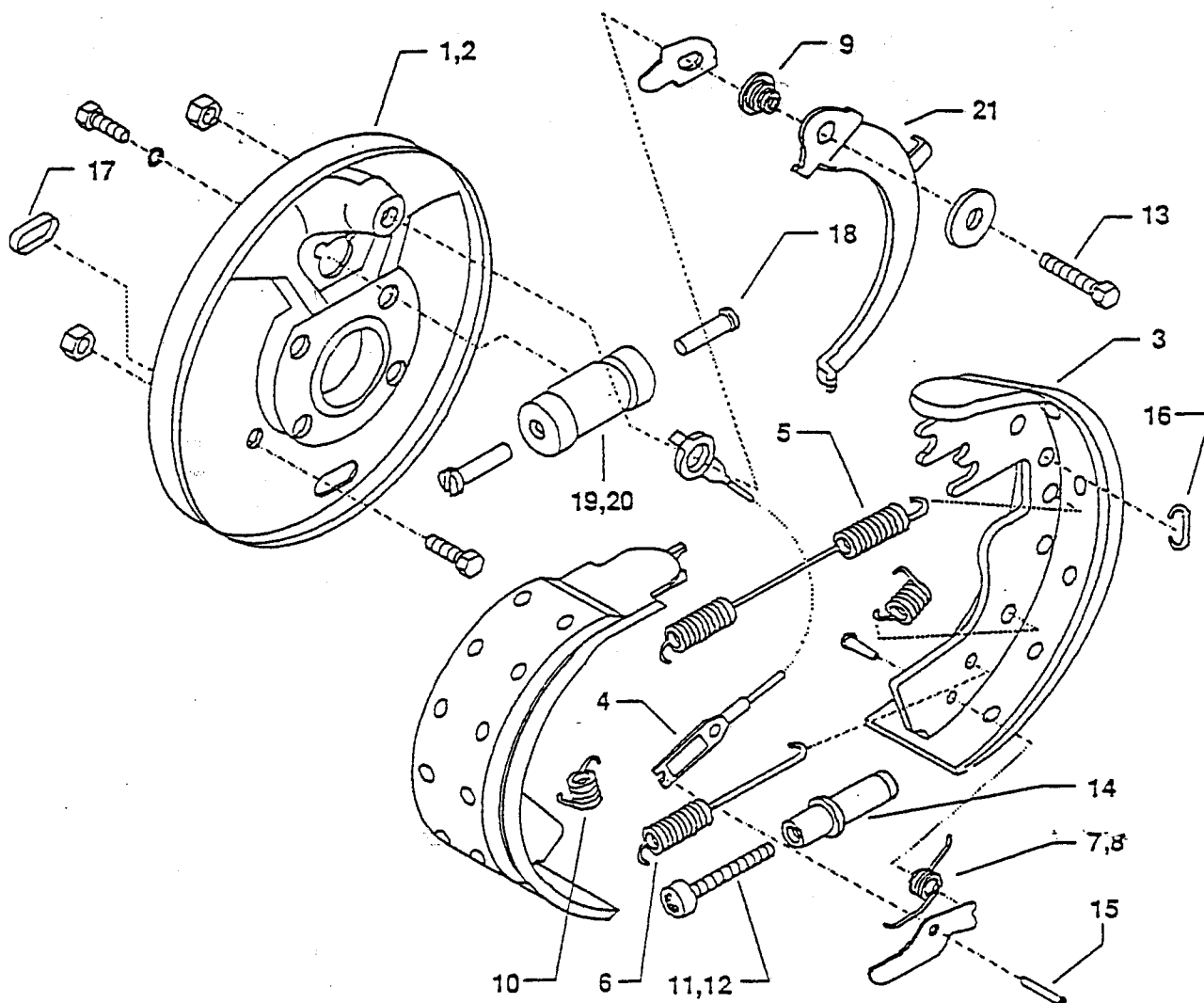
REAR AXLE TRANSFER CASE AND DRIVE SHAFT			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	88-239-82	Nut, Hex Head, Jam, $\frac{3}{4}$ ", NF	2
2	88-229-62	Lockwasher, $\frac{3}{4}$ "	1
3	88-228-61	Washer, SAE, $\frac{3}{4}$ "	1
4	86-555-15	Yoke, Pinion Shaft	1
5	16-660-11	Spacer, Collar, Yoke Bearing	1
6	45-307-00	Oil Seal, Bearing	2
7	80-011-10	Bearing, Taper Cone	2
8	16-660-10	Spacer, Bearing Collar, Internal	2
9	16-411-00	Spacer, .005"	2
10	16-419-00	Spacer, .002"	2
11	80-102-00	Bearing Race, Tapered, Front Wheel	2
12	17-001-20	Weldment, Collar, Flanged Bearing (includes item #11)	1
13	88-108-61	Washer, SAE, $\frac{3}{8}$ "	4
14	88-109-81	Locknut, NC, $\frac{3}{8}$ "	6
15	80-705-00	O-Ring	1
16	86-555-50	Shaft, Collar, Flanged Bearing	1
17	97-101-20	Woodruff Key, $\frac{5}{16}$ " x 1"	1
18	97-100-00	Woodruff Key, $\frac{3}{16}$ "	1
19	44-356-00	Plate Backing, Drop Box	1
20a	30-070-14	Sprocket, Pinion, 28 Tooth (B 6-60 only)	1
20b	30-070-13	Sprocket, Pinion, 20 Tooth (B 6-60 only)	1
20c	30-070-12	Sprocket, Pinion, 15 Tooth (B 6-60/61)	1
21a	30-071-00	Sprocket, 52 Tooth (B 6-60 only)	1
21b	30-071-10	Sprocket, 52 Tooth (B 6-61 only)	1
22	88-069-81	Locknut, Nylon, $\frac{1}{4}$ "	12
23	88-108-62	Lockwasher, $\frac{3}{8}$ "	5
24	88-101-13	Screw, Hex Head, NC, $\frac{3}{8}$ " x $\frac{1}{4}$ "	1
25a	30-320-10	Chain, Double Roller, 94 Pitch (B 6-60 only), use with 28 tooth pinion sprocket	1
25b	30-320-14	Chain, Double Roller, 90 Pitch (B 6-60 only), use with 20 tooth pinion sprocket	1
25c	30-320-13	Chain, Double Roller, 88 Pitch (B 6-60/61), use with 15 tooth pinion sprocket	1
26	43-202-10	Cover, Chain Case	1
27	43-202-00	Plate, Cover, Drop Box	1
28	41-885-20	Vent, NPT, $\frac{1}{8}$ "	1
29	96-154-12	Elbow, NPT, $\frac{1}{8}$ "	1
30	88-060-26	Screw, Hex Head, NC, $\frac{1}{4}$ " x 5"	12
31	41-997-00	Plug, Drain and Level	2
32	86-554-10	U-Bolt, U-Joint	4
33	88-088-62	Lockwasher, $\frac{5}{16}$ "	8
34	88-099-80	Nut, Hex, $\frac{5}{16}$ "	8
35a	86-556-12	Drive Shaft, 62" Wheel Base (B 6-60 only)	1
35b	86-556-32	Drive Shaft, 82" Wheel Base (B 6-60 only)	1
35c	86-556-48	Drive Shaft, 98" Wheel Base (B 6-60 only)	1
35d	86-556-17	Drive Shaft, 62" Wheel Base (B 6-61 only)	1
35e	86-556-37	Drive Shaft, 82" Wheel Base (B 6-61 only)	1
35f	86-556-53	Drive Shaft, 98" Wheel Base (B 6-61 only)	1

## REAR BRAKE ASSEMBLY (B 6-60)



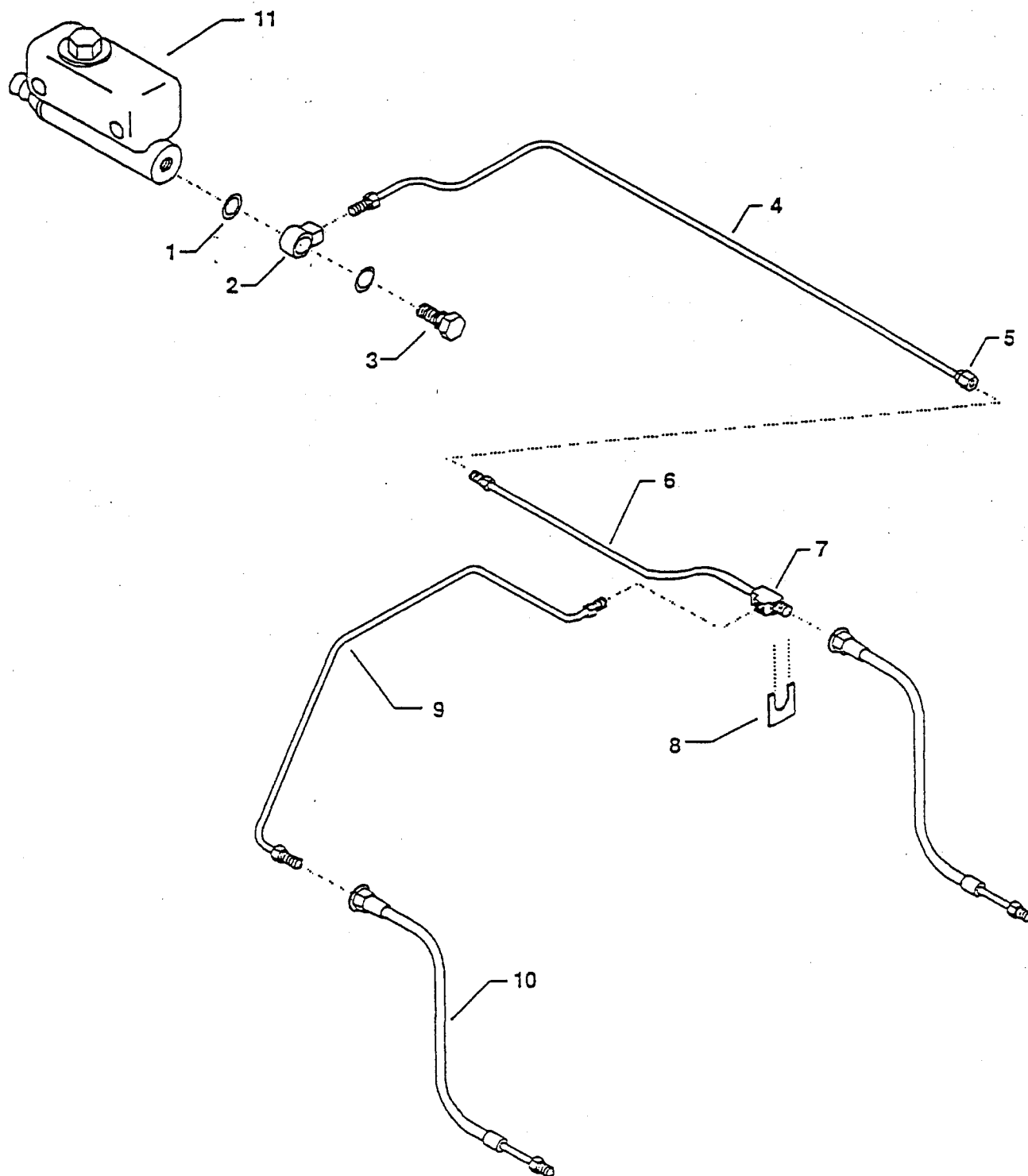
REAR BRAKE ASSEMBLY (B 6-60)			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1a	41-311-58	Backing Plate, Brake, Left	2
1b	41-311-59	Backing Plate, Brake, Right	2
2	85-205-61	Spring, Kit	2
3	41-311-72	Lever, Hand Brake, Left	1
4	41-311-73	Lever, Hand Brake, Right	1
5	41-632-00	Brake Shoes, 11" (set of four)	1 set
6	41-311-76	Link, Brake	2
7	99-504-00	Cylinder, Wheel	2
8	41-681-00	Plate, Shoe, Top	2
9	41-683-00	Rods, Wheel Cylinder, Push	4
10	85-000-02	Spring, Hand Brake	2

## REAR BRAKE ASSEMBLY (B 6-61)



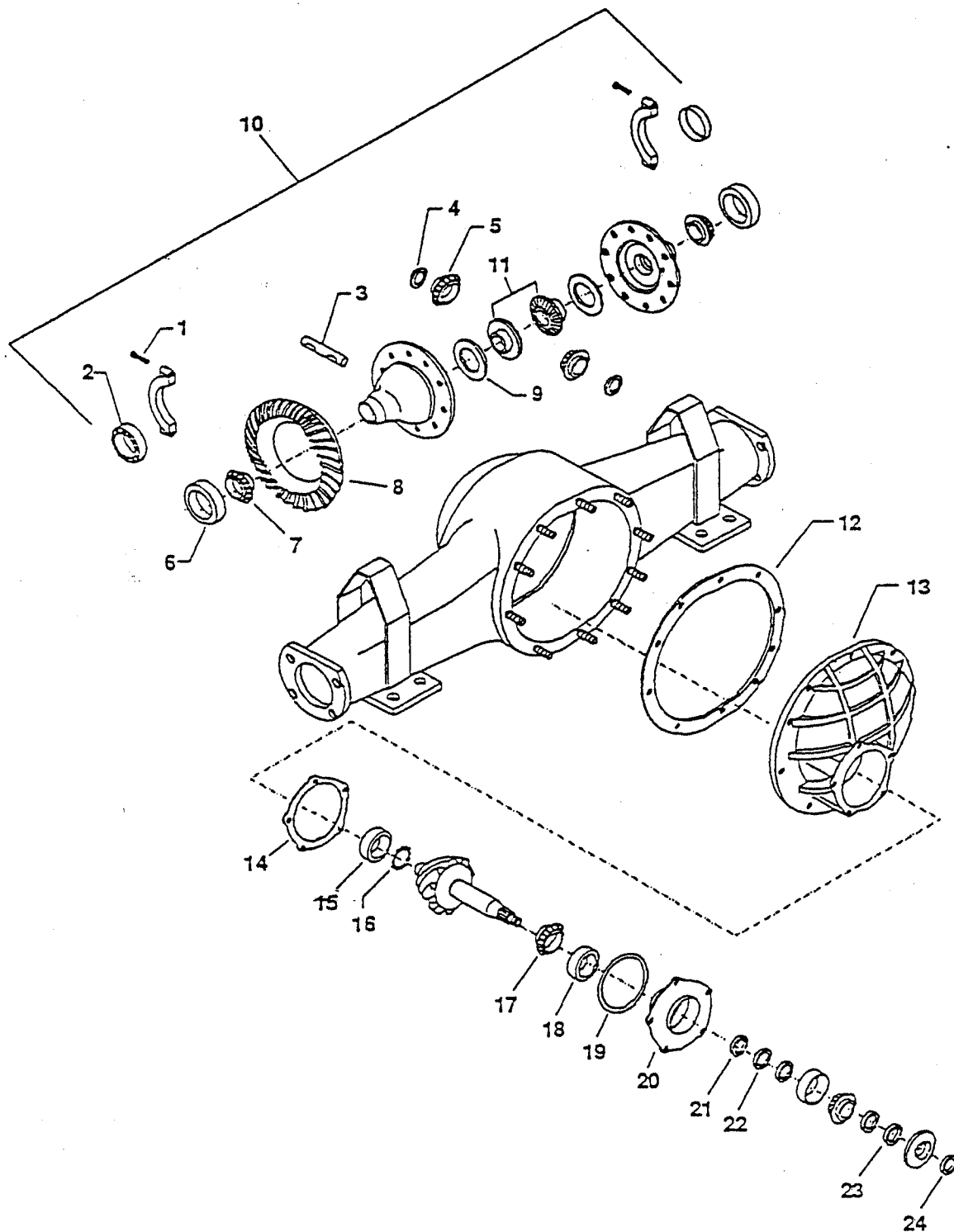
REAR BRAKE ASSEMBLY (B 6-61)			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
Kit	41-352-98	Rear Brake, Assembly Kit, 12", Left	1
Kit	41-352-99	Rear Brake, Assembly Kit, 12", Right	1
1	41-351-98	Back Plate, Brake, 13", Left	1
2	41-351-99	Back Plate, Brake, 13", Right	1
3	42-352-60	Brake Shoes, 12" (set of four)	1 set
4	96-828-00	Cable, Rear Brake Assembly, 13"	2
5	85-211-10	Spring Extension, Top (brown)	2
6	85-209-10	Spring Extension, Bottom (brown)	2
7	85-352-00	Spring Torsion, Right (black)	1
8	85-352-10	Spring Torsion, Left (yellow)	1
9	85-352-20	Spring Compression (black)	2
10	85-352-30	Spring Torsion (red)	4
11	96-352-98	Screw, Brake Adjusting, Left	1
12	96-352-99	Screw, Brake Adjusting, Right	1
13	96-000-10	Bolt, Brake Anchor	2
14	41-678-10	Socket, Brake Adjusting	2
15	41-352-00	Pin, Brake Adjustor	2
16	41-352-10	Pin, Brake Shoe Holddown	4
17	41-684-10	Cover, Adjusting Hole	2
18	41-683-10	Rod, Wheel Cylinder	4
19	99-502-98	Wheel Cylinder, Left	1
20	99-502-99	Wheel Cylinder, Right	1
21a	41-311-72	Lever, Hand Brake, Left	1
21b	41-311-73	Lever, Hand Brake, Right	1

## REAR BRAKE LINES



REAR BRAKE LINES			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	99-572-00	Gasket, Brake Line	2
2	99-566-00	Fitting, Swivel	1
3	99-579-00	Bolt, Swivel Fitting	1
4	99-605-61	Brake Line, Formed, Front	1
5	99-575-00	Connector, Union	1
6a	99-605-64	Brake Line, 54" Deck, 62" Wheel Base	1
6b	99-607-52	Brake Line, 78" Deck, 82" Wheel Base	1
6c	99-609-55	Brake Line, 96" Deck, 92" Wheel Base	1
7	99-559-00	T-Fitting	1
8	99-476-00	Clip	1
9	99-604-61	Brake Line, Formed, Rear	1
10	99-580-10	Hose, Rear Brake	2
11	99-510-01	Master Cylinder	1

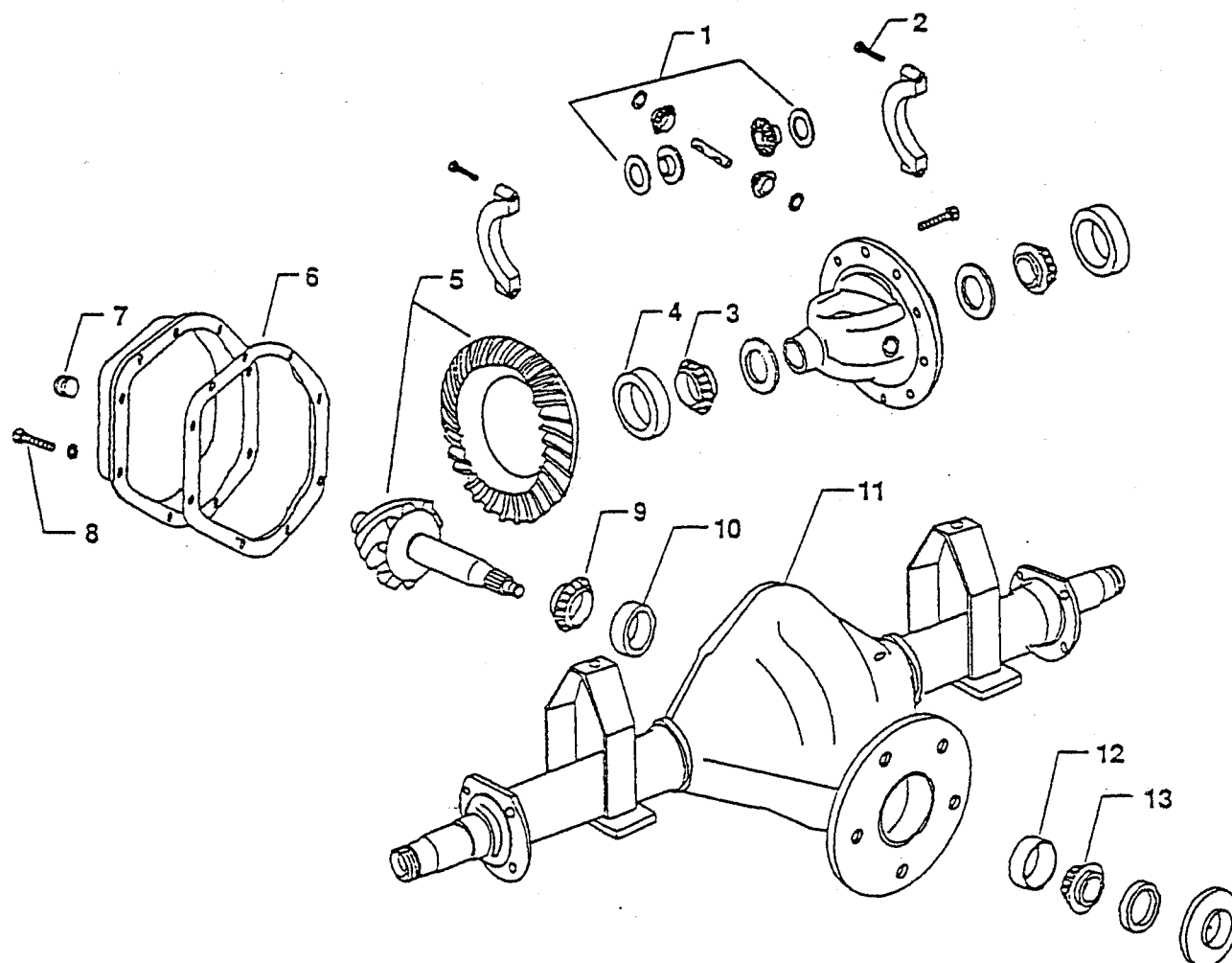
## REAR AXLE DIFFERENTIAL (B 6-60)





REAR AXLE DIFFERENTIAL ASSEMBLY (B 6-60)			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	88-140-16	Screw, Hex Head, Cap, NC, 1/2" x 2"	2
2	41-707-00	Adjusting Nut, Differential Bearing, F2	2
3	41-700-00	Shaft, Differential Pinion	1
4	41-702-00	Washer, Thrust	2
5	41-703-00	Gear, Differential Pinion	2
6	80-129-00	Bearing Race, Tapered	2
7	80-513-00	Bearing, Roller	2
8	31-239-00	Gear Set, Ring and Pinion, 5.43 ratio, F2	1
9	41-704-00	Washer, Thrust	2
10	44-340-78	Differential Assembly, 5.43 ratio, F2 (includes items 1 -9)	1
11	41-705-00	Gear, Differential Side	2
12	45-042-00	Gasket, Differential Housing	1
13	41-710-05	Cover, Differential Housing	1
14	41-711-00	Shim, Pinion	1-3
15	80-555-00	Bearing, Ball Pinion	1
16	41-714-00	Retainer, Bearing	1
17	80-554-00	Roller Bearing, Tapered	2
18	80-125-00	Bearing Race, Pinion	2
19	80-702-00	O-Ring, Pinion	1
20	44-340-91	Pinion Case Assembly	1
21	16-419-00	Spacer, .002"	2-6
22	16-411-00	Spacer, .005"	2-6
23	16-420-00	Spacer, .010"	2-6
24	45-339-00	Oil Seal, Drive Pinion Shaft	1

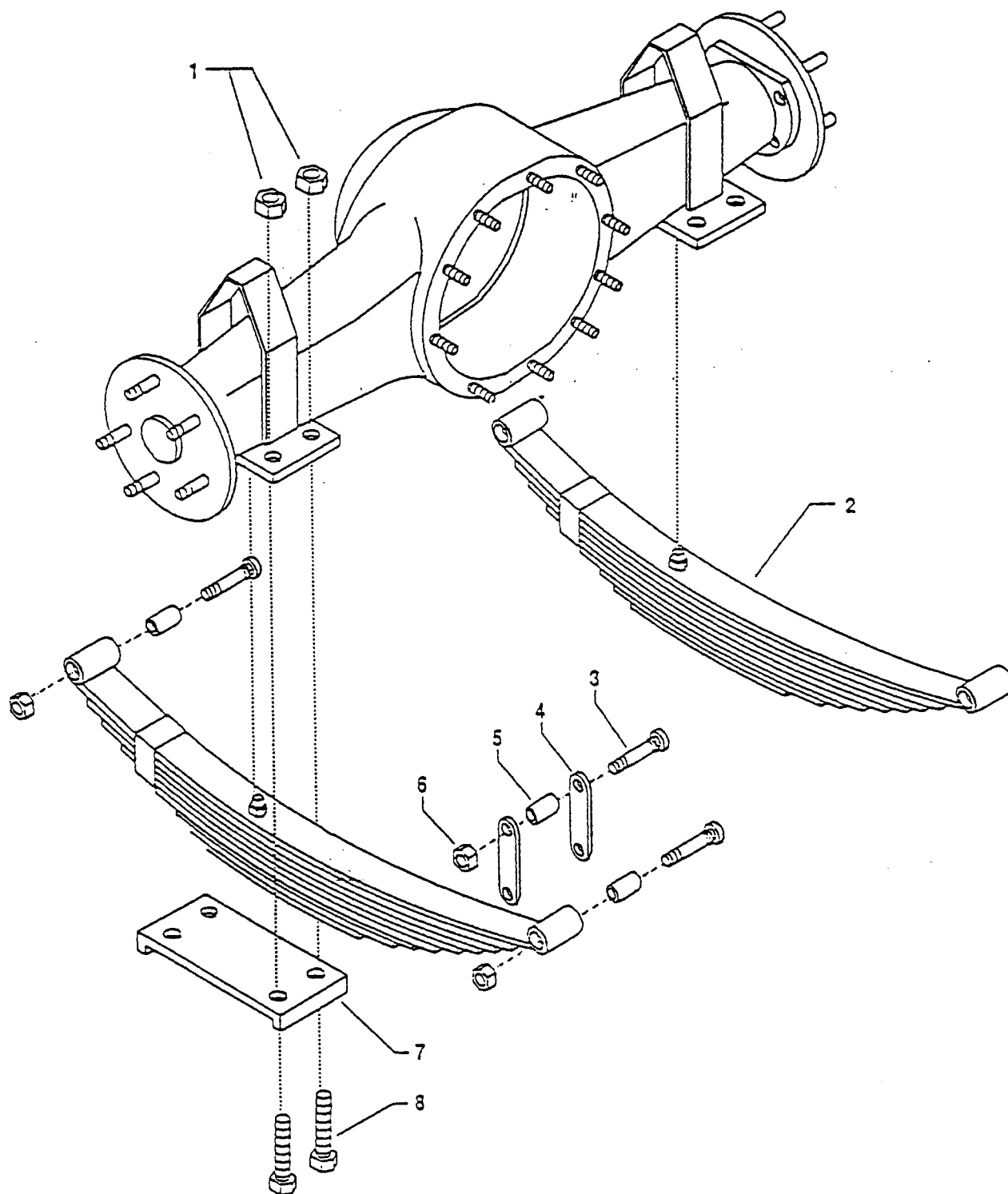
## REAR AXLE DIFFERENTIAL (B 6-61)



REAR DIFFERENTIAL ASSEMBLY (B 6-61)			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	41-873-52	Assembly, Differential Carrier	1
2	88-151-13	Screw, Hex Head, Cap. NF, $\frac{1}{2}$ " x $1\frac{1}{2}$ ", 12	
3	80-153-00	Bearing, Roller, Tapered	2
4	80-136-00	Race, Bearing	2
5	31-243-10	Gear Set, Ring and Pinion (6.17 Ratio), 29 Tooth Spline	1
6	45-041-00	Gasket	1
7	41-855-00	Plug, Fill and Drain, Pressed Head	1
8	88-140-16	Screw, Hex Head, Cap. NC, $\frac{1}{2}$ " x 2"	10
9	80-532-00	Bearing, Roller, Tapered	1
10	80-137-00	Race, Bearing, Rear Pinion	1
11	41-883-02	Housing and Gears (no Axles or Brakes)	1
12	80-138-00	Race, Bearing, Front Pinion	1
13	80-533-00	Bearing, Front Pinion	1

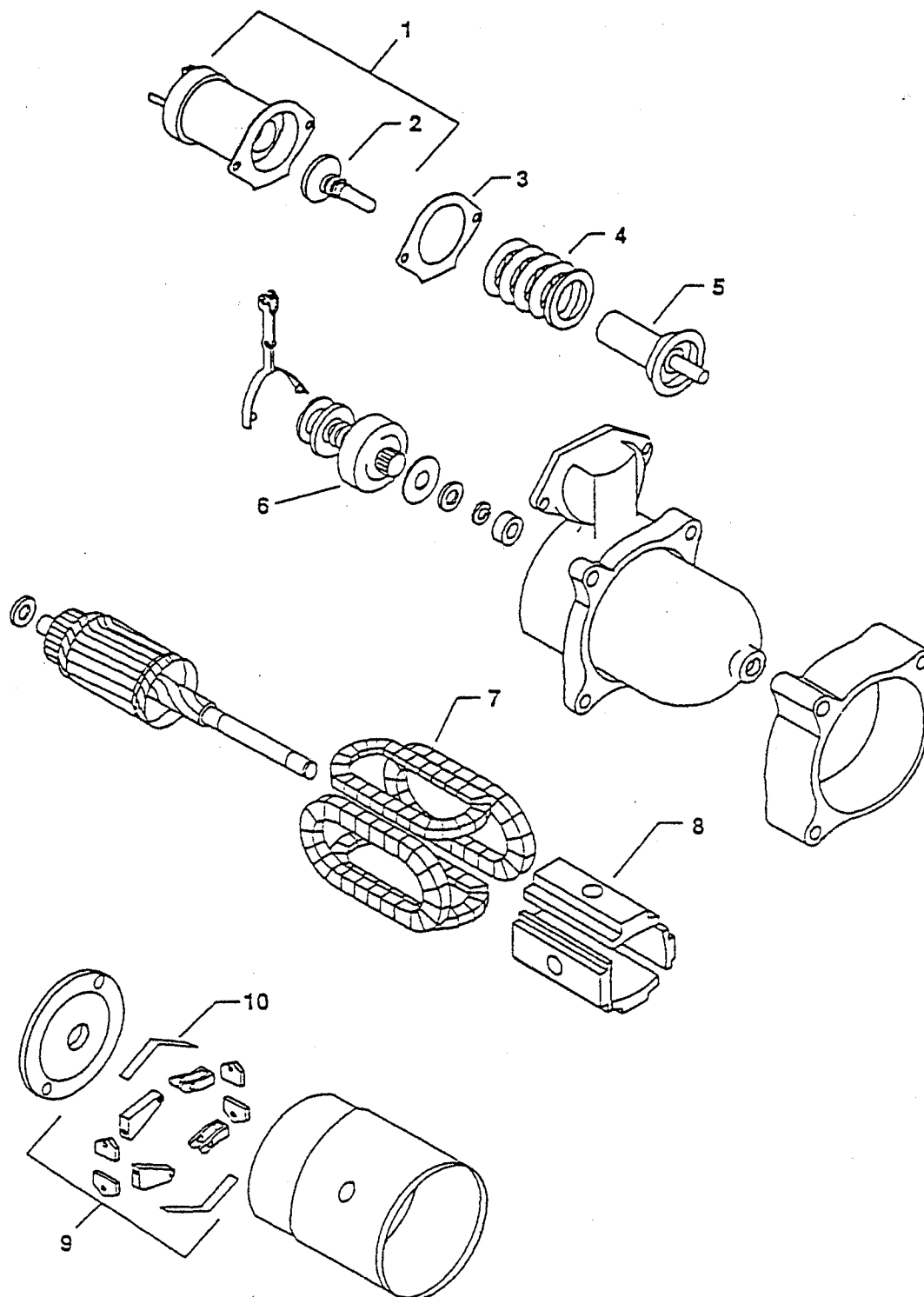
-- 41-866-00 DIFFERENTIAL ASSEMBLY

## REAR SUSPENSION



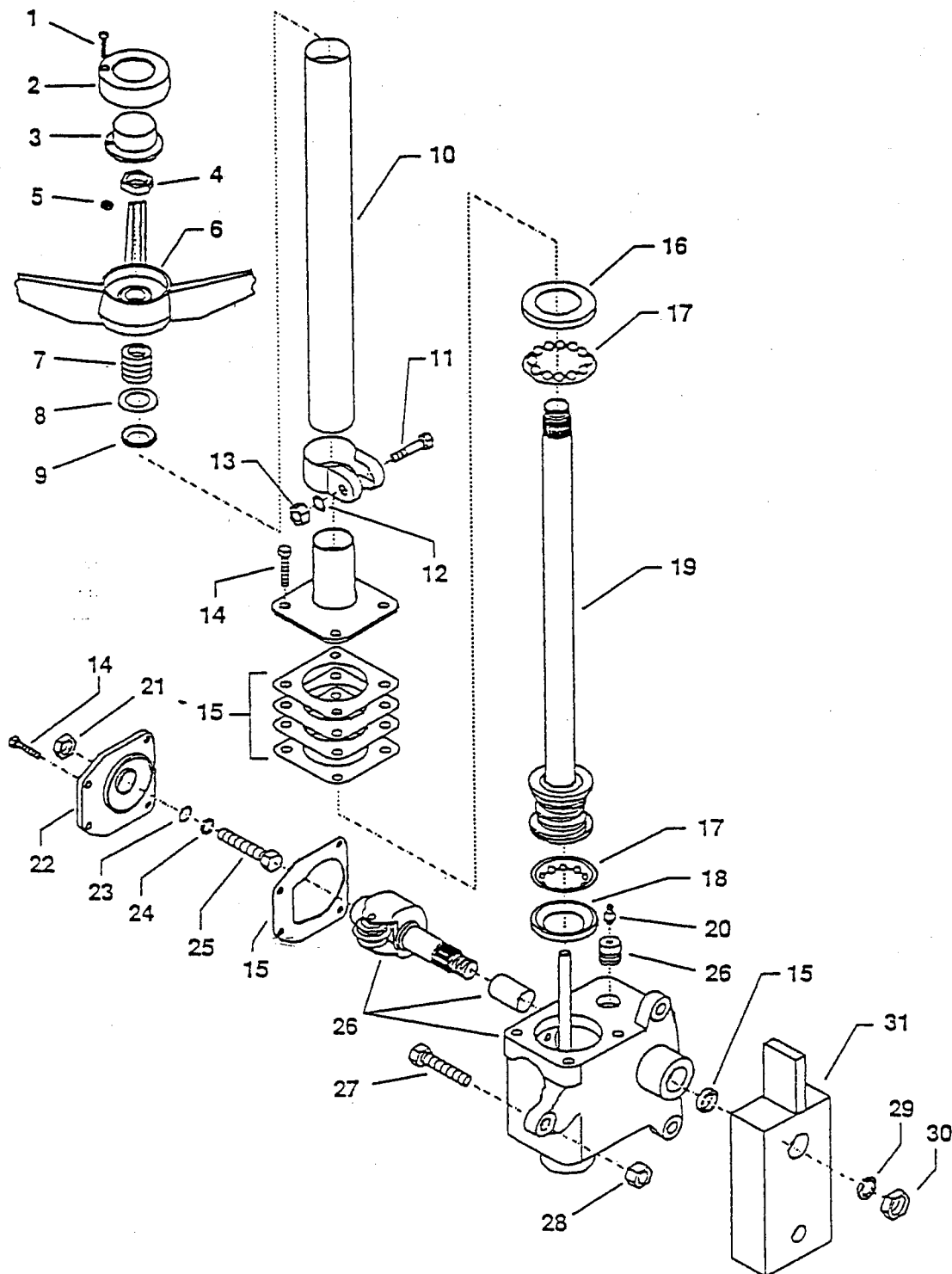
REAR SUSPENSION			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	88-109-81	Locknut, NC, 3/8"	8
2	85-503-05	Leaf Spring, 9", Rear	2
3	96-248-01	Bolt, Shackle	6
4	16-870-10	Strap, Shackle, 2 1/4"	4
5	32-213-00	Bushing, Nylon	4
6	88-169-82	Locknut, 9/16"	6
7	16-861-01	Pad, Spring	2
8	88-101-22	Screw, Hex Head, 3/8" x 3 1/2"	8

# STARTER MOTOR



STARTER MOTOR ASSEMBLY KIT, 12 VOLT (66-004-00)			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	66-004-05	Solenoid Switch Assembly (includes item 2)	1
2	66-004-07	Contact Assembly, Solenoid Switch	1
3	66-004-08	Gasket, Solenoid Switch	1
4	66-004-06	Spring, Plunger Return	1
5	66-004-09	Plunger, Solenoid Switch	1
6	66-004-04	Drive Gear Assembly, Starter Motor	1
7	66-004-02	Field Coil Assembly (set of 4)	1
8	66-004-10	Pole Shoes (set of 4)	1
9	66-004-01	Brush Set (with brush holders)	1
10	66-004-03	Springs, Brush, Starter Motor	4

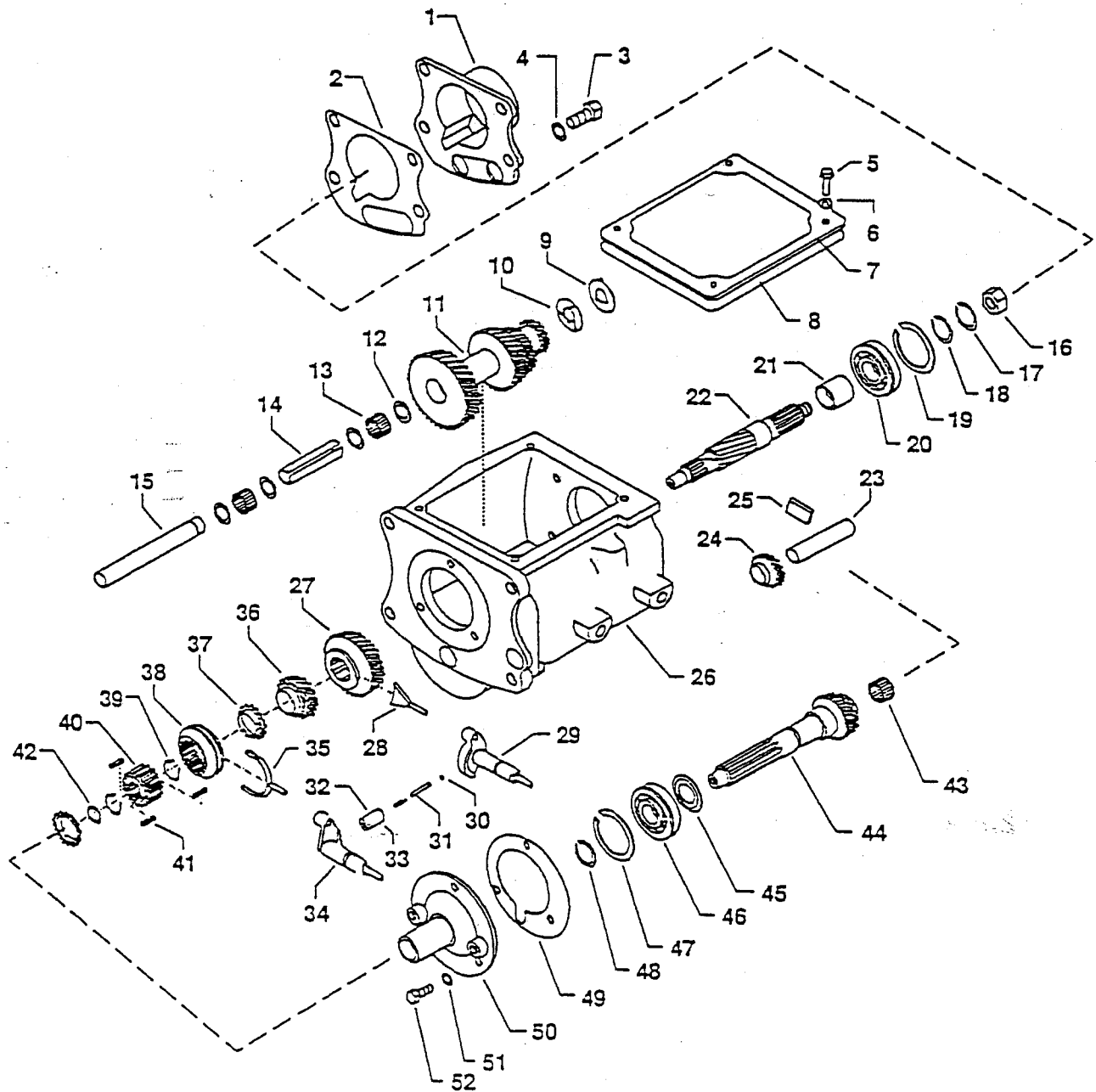
# STEERING WORM





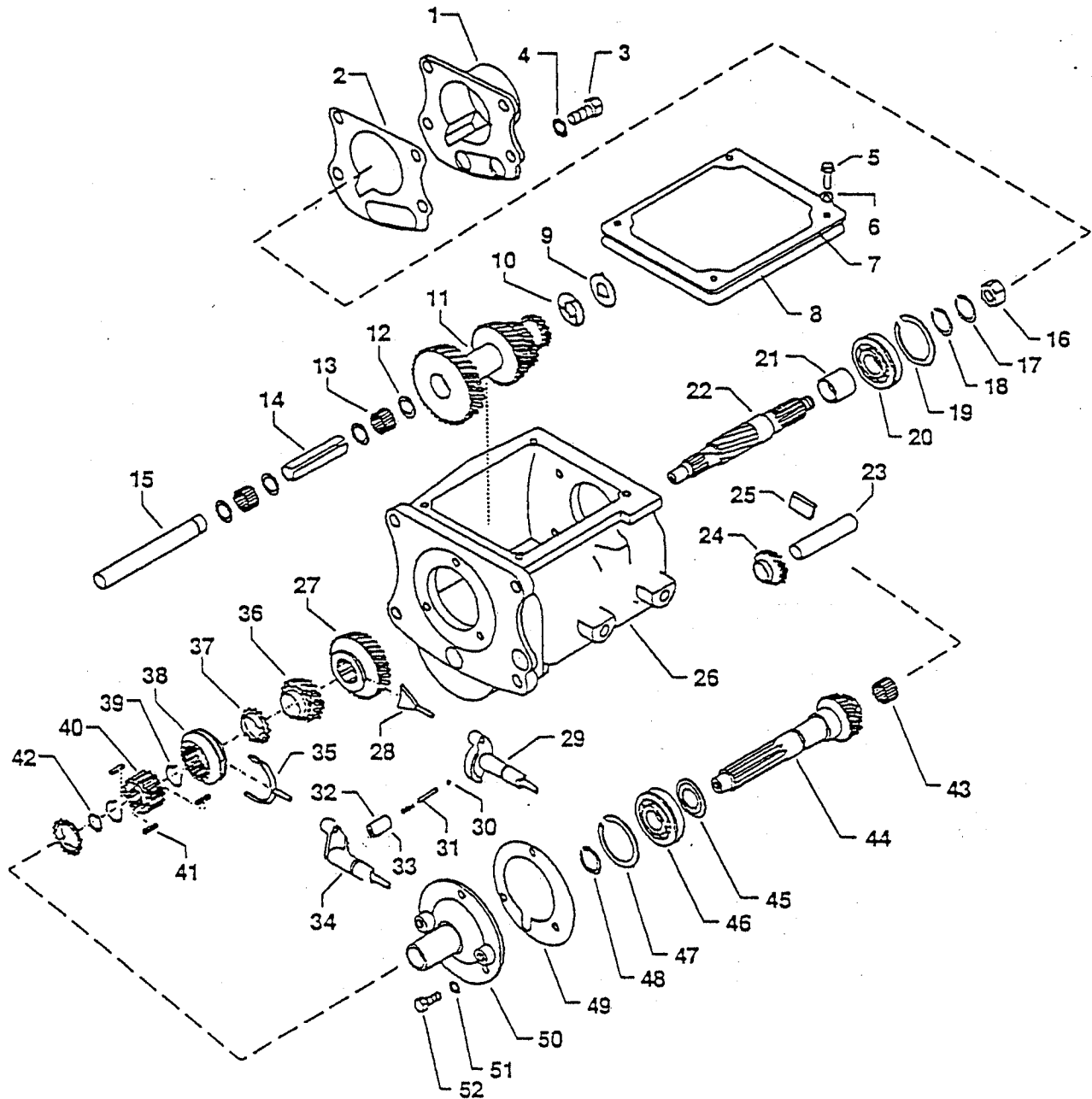
STEERING WORM (18-313-00)			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	88-045-06	Screw, Truss Head	1
2	19-004-20	Cap, Steering Wheel	1
3	71-501-00	Button, Horn	1
4	88-259-82	Nut, NF, Jam, 13/16"	1
5	88-049-86	Locknut, 10-32	2
6	19-003-20	Steering Wheel	1
7	85-122-00	Spring, Compression	1
8	18-307-55	Spacer, Jacket Bearing	1
9	18-307-54	Spacer, Jacket Bearing	1
10	18-307-52	Jacket, Steering Column	1
11	88-080-18	Screw, Hex Head, Cap, 5/16" x 2 1/2"	1
12	88-088-62	Lockwasher, 5/16"	1
13	88-099-80	Nut, Hex, 5/16"	1
14	88-080-09	Screw, Hex Head, Cap, 5/16" x 3/4"	8
15	18-307-42	Gasket, Seal and Shim Kit	1
16	18-307-57	Bearing Cup, Inner Worm	1
17	18-307-53	Worm Bearing Assembly	2
18	18-307-56	Bearing Cup, Outer Worm	1
19	18-313-03	Shaft and Worm Assembly, Steering Column	1
20	87-074-00	Grease Fitting, 1/4"	1
21	88-159-82	Nut, NF, Jam, 1/2"	1
22	18-307-67	Cover, Shaft	1
23	18-307-66	Ring, Snap	1
24	18-307-65	Washer, Thrust	1
25	18-307-64	Screw, Adjusting	1
26	18-313-02	Steering Unit Assembly	1
27	88-151-16	Bolt, Hex Head, NF, 1/2" x 2"	3
28	88-159-84	Locknut, NF, 1/2"	3
29	88-268-62	Lockwasher, 7/8"	1
30	88-279-82	Nut, Jam, NF, 7/8"	1
31	18-107-01	Steering Arm	1

# TRANSMISSION



TRANSMISSION (66-500-00)			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
1	66-500-49	Retainer, Rear Bearing	1
2	66-500-50	Gasket, Retainer, Rear Bearing	1
3	96-243-00	Bolt, Hex Head, NC, $\frac{7}{16}$ " x $\frac{7}{8}$ "	4
4	88-128-62	Lockwasher, $\frac{7}{16}$ "	4
5	88-080-09	Screw, Hex Head, Cap, $\frac{5}{16}$ " x $\frac{3}{4}$ "	4
6	88-088-62	Lockwasher, $\frac{5}{16}$ "	4
7	66-500-55	Cover, Case	1
8	66-500-56	Gasket, Case Cover	1
9	66-500-38	Washer, Thrust, Rear	1
10	66-500-39	Washer, Rear, Bronze	1
11	66-500-43	Gear, Countershaft	1
12	66-500-40	Spacer, Bearing	2
13	66-500-41	Bearing, Roller	40
14	66-500-42	Spacer, Bearing	1
15	66-500-37	Countershaft	1
16	66-500-54	Nut, Mainshaft	1
17	88-228-60	Washer, Cut, $\frac{3}{4}$ "	1
18	41-872-00	Washer, Special	1
19	66-500-28	Snap Ring, Bearing	1
20	66-500-27	Bearing	1
21	16-422-10	Spacer	1
22	66-500-18	Mainshaft	1
23	66-500-45	Shaft, Reverse Idler	1
24	66-500-46	Gear, Reverse Idler	1
25	66-500-48	Plate, Lock	1
26	66-500-04	Case, Transmission	1
27	66-500-19	Gear, Low and Reverse	1
28	66-500-11	Fork, Low and Reverse Shift	1
29	66-500-10	Lever, Low and Reverse Shift	1
30	66-500-16	Ball, Steel	2
31	66-500-15	Plunger, Interlock	1
32	66-500-14	Spring, Shift Lever	1
33	66-500-13	Sleeve, Interlock	1
34	66-500-08	Lever, 2nd and 3rd Shift	1
35	66-500-09	Fork, 2nd and 3rd Shift	1
36	66-500-20	Gear, 2nd Speed	1
37	66-500-21	Ring, Synchronizer	2
38	66-500-22	Synchronizer Unit	1
39	66-500-25	Wire, Synchronizer Spring	2
40	66-500-23	Sleeve, Synchronizer, 2nd and 3rd	1
41	66-500-24	Plate, Shifting	3
42	66-500-26	Snap Ring, Clutch Hub	1
43	66-500-34	Bearing, Roller	13
44	66-500-29	Gear, Main Drive	1

# SECTION 5: ILLUSTRATED PARTS BREAKOUT



TRANSMISSION (66-500-00)			
ITEM #	PART NUMBER	DESCRIPTION	QTY.
45	66-500-30	Oil Slinger	1
46	66-500-31	Bearing	1
47	66-500-32	Snap Ring	1
48	66-500-33	Snap Ring	1
49	66-500-35	Gasket, Retainer, Bearing	1
50	66-500-36	Retainer, Bearing	1
51	88-088-62	Lockwasher, $\frac{5}{16}$ "	3
52	96-241-00	Bolt, Hex Head, NC, $\frac{5}{16}$ " x $\frac{3}{4}$ "	3

VEHICLE OPTIONS		
PART NUMBER	DESCRIPTION	QTY.
10-088-00	Tire, Pneumatic, Front (B 6-60 only)	2
12-042-00	Wheel, Pneumatic (B 6-60 only)	2
13-745-00	Tire and Wheel Assembly, Pneumatic, Front	2
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