TAYLOR-DUNN®

MANUAL MB-T48-00

OPERATORS and MAINTENANCE MANUAL

This Manual Covers Serial Numbers: 116303 & up

MODELS:

T-48 Taylor Truck

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INTRODUCTION

ABOUT THIS MANUAL

This manual provides you with information you need to safely operate and maintain this vehicle.

We assume that those who will perform maintenance or repair operations are trained vehicle service technicians capable of performing minor and major repairs and qualified to use the tools required.

We also assume that they have or will attend a training program designed to familiarize them 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 Taylor Truck, 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 Taylor Truck.

SECTION 3: MAINTENANCE PROCEDURES

Contains a scheduled maintenance checklist lubrication diagram troubleshooting guide recommended spare parts list, and detailed maintenance procedures.

SECTION 4: SERVICE PROCEDURES

Contains service procedures in for each assembly found in the Taylor Truck. 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 Taylor Truck.

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.*

VEHICLE DESCRIPTION

This manual applies to vehicles with serial numbers starting at 116303.

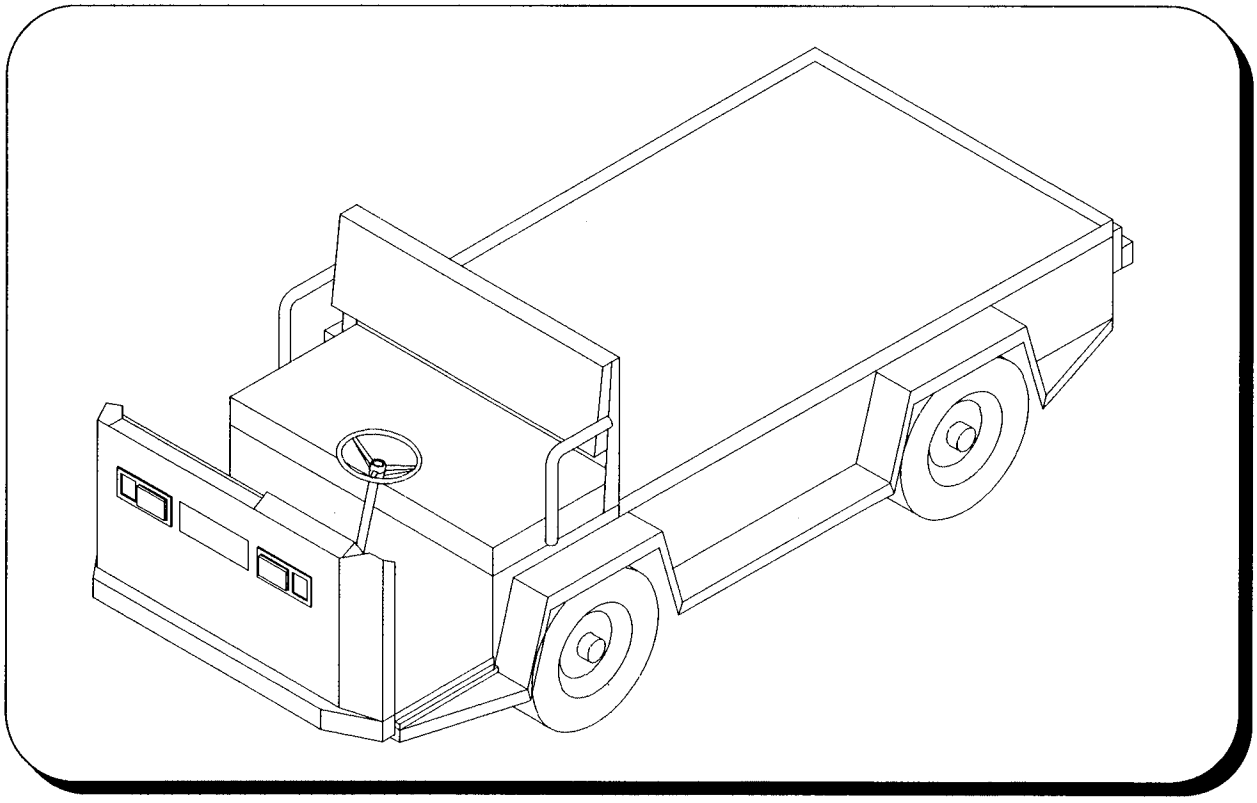
The Taylor Truck is designed to be driven on smooth surfaces in and around industrial plants, nurseries, institutions, motels, mobile home parks and resorts.

This vehicle is not designed to be driven on public highways. It is not designed to go in excess of 18 mph whether on a level or on a downhill surface. Driving at a speed higher than 18 mph may result in steering difficulty, motor damage, and/or loss of control. It is not designed to be towed in excess of 5 mph.

The vehicle can handle a total payload (incl. cargo, optional equipment, passengers and driver) of up to 3000 lbs. Various options are available to enable you to customize the vehicle to suit your particular needs (consult your Taylor-Dunn salesperson or representative for current options).

This vehicle conforms to requirements for Type E vehicles 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).

The model and serial number for this vehicle are imprinted on a decal located under the passenger seat and stamped in a main frame rail directly below the front left (driver side) corner of the deck board or on the main frame tube under the driver seat.



STANDARD SPECIFICATIONS Taylor Truck

ITEM	SPECIFICATION
Standard dimensions	325 L x 127W x 119 H Centimeters
	128 L x 50W x 47H Inches
	Bed size 75 1/4 x 41 1/4 Inches
Dry weight	863 kg
	1,900 lbs.
Turning radius	368 centimeters
	145 Inches
Transmission	Power Traction chain primary reduction. Automotive differential secondary reduction.
Brakes	4 wheel hydraulic disc
Motor	DC series wound, 15hp @ 1400 rpm
Tires	20.5 x 8 x 10 Load range E, pneumatic
Tire pressure	90 psi max.
Maximum load	3000 lbs. (863 kg) including driver, passengers and optional equipment
Battery	8 ea. 6 volt 244 AH lead acid (48 volt system)

TAKING DELIVERY OF YOUR VEHICLE

THIS VEHICLE SHOULD BE INSPECTED IMMEDIATELY AFTER DELIVERY. 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. Nothing should look broken or damaged.

Examine any visible wiring for obvious signs of damage. Check that all connections are secure.

Check that battery connections are tight and all cells are filled.

Inspect the tires for obvious wear or damage. Check the tire pressure. Make sure that all wheel lugs are secure.

Check the body, seats, windshield (optional), trim and other external parts for obvious damage.

CHECKING THE CONTROLS

Operate each of the following controls before turning on the key switch:

- Accelerator pedal
- Brake pedal
- Forward - reverse selector lever
- Parking brake
- Steering wheel
- Horn
- Lights

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

WHAT TO DO IF YOU FIND A PROBLEM

If you find a problem with this vehicle you must immediately file a claim with the carrier. The claim must be filed within 48 hours of receiving this vehicle. Forward a copy of the damage claim to your Taylor-Dunn dealer.

⚠WARNING

Do not repair modify or adjust any part of this vehicle unless you are authorized to do so. Incorrect repairs may result in injury to yourself and others and cause the invalidation of your warranty.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OPERATING GUIDELINES

SAFETY RULES AND GUIDELINES

It is the responsibility of the owner of this vehicle to assure 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).

This vehicle is designed to be driven over smooth surfaces 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 18 MPH at any time. Speeds over 18 MPH may cause steering difficulty and loss of control and engine damage.

- Do not drive this vehicle unless you are a qualified and trained operator.
- 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 slippery or when driving on an incline.
- This vehicle may overturn easily if turned sharply when driving at high speeds, especially when on an incline.
- Drive only on level surfaces or on surfaces having an incline of no more than 15% (8.5 degrees.).
- Do not drive over loose objects, holes or bumps.
- Observe all traffic regulations and speed limits (18 mph max.).
- 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.

DRIVER TRAINING PROGRAM

The owner of this vehicle shall conduct an Operator Training program for 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 cargo and personnel.
- All safety rules contained within this manual.
- Proper operation of all vehicle controls.
- A vehicle operation and driving test.

DRIVER QUALIFICATIONS.

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 Controlled Personnel and Burden Carriers ANSI B56.8.

The following are 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.
- Know how to properly park this vehicle.
- Recognize an improperly maintained vehicle.
- Demonstrate ability to handle this vehicle in all conditions. .

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.*

KEY SWITCH /STARTER

A key switch located on the right side of the instrument panel starts the vehicle. Rotate the key clockwise to turn the vehicle on counter-clockwise to turn the vehicle off.

⚠WARNING

The key switch should be in the off position whenever the driver is off the vehicle.

This switch is also designed to secure and disable the vehicle. You can remove the key ONLY when the key switch is in the OFF position.

SEAT INTERLOCK SWITCH

A switch located under the driver's seat disables the vehicle when the driver leaves the seat. The driver must be seated for the vehicle to operate.

This is an added safety feature and should never be bypassed.

FORWARD-REVERSE SWITCH

The forward-reverse rocker switch, located on the dash, determines the direction of travel (forward or reverse) of the vehicle. Push the top of the switch to make the vehicle go forward. Push the bottom of the switch to go in reverse.

⚠CAUTION

DO NOT SHIFT from forward to reverse or vice-versa while the vehicle is in motion. Make sure the vehicle is completely stopped before shifting.

⚠WARNING

The shift switch has a neutral position. The shift switch should be in the neutral position with the park brake set whenever the operator leaves the driver's seat.

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. It operates the same way as the accelerator pedal in an automobile and controls the vehicle's speed.

Depress the pedal to speed the vehicle up. Release the pedal to slow down.

NOTE *The foot brake pedal will need to be used to slow this vehicle on a down grade.*

STEERING

The steering wheel and steering system is an automotive type. To turn right, turn the steering wheel to the right (clockwise). To turn left, turn the steering wheel to the left (counter clockwise).

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.

PARK BRAKE LEVER

The park brake is actuated with a hand lever located on the floorboard to the right of the accelerator pedal. To set the park brake pull the lever back until it locks. To release the park push the lever all the way forward.

⚠CAUTION

Do not operate the vehicle with the parking brake applied. Severe motor/control damage will result.

HORN BUTTON

The horn button is located on the steering wheel. Depress the button to sound the horn and release the button to turn it off.

INSTRUMENT PANEL

The headlight switch is located of the left side of the instrument panel. An accessory switch, if any, is adjacent and to the right of it.

HOUR METER (OPTIONAL)

The hour meter is located to the right of the battery status indicator. This tracks the number of hours the vehicle has been in operation.

BATTERY STATUS INDICATOR

The battery status indicator is located to the right of the accessory switch.. The normal operating range is in the green zone. The vehicle needs charging if it is in the yellow zone to the left. If it is in the red zone to the left the vehicle should be taken out of service immediately to be charged

Driving

- Slow down and sound the horn when approaching a corner or other blind intersection.
- No horseplay or dangerous driving.
- Do not drive this vehicle in hazardous areas unless this vehicle is approved and labeled for such operation.
- Immediately report any accident or vehicle problem 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 the parking brake and place shift lever in neutral before leaving the vehicle.
- If you will be away from this vehicle turn off the key switch, remove the key and take the key with you.
- If you park this vehicle on an incline block the wheels.
- Do not block fire aisles, fire equipment or stairways.

Towing

- To tow this vehicle attach a tow strap to the front bumper tow bar and place the forward/reverse shift lever in the neutral position.
- Use another driver to steer this vehicle while it is being towed; be sure the driver uses the brakes when the towing vehicle slows or stops..

⚠CAUTION

Do not exceed 5 MPH or carry any passengers while towing this vehicle.

Storing and returning to service

- Do not store batteries in a discharged condition. Fill, charge and clean batteries fully before putting in storage
- Lube all grease fittings.
- Spray all exposed metal surfaces with a light oil.
- Clean and dry all exposed electrical connections.
- Inflate tires to proper pressure and then block them off the ground.
- If stored for a prolonged period the batteries should be charged as follows;

Storage temperature	Charge
Below 40° F	Every 6 months
40° - 60° F	Every 2 months
Above 60° F	Once a month

RETURNING TO SERVICE

- Check state of charge of batteries and charge if necessary.
- Perform <u>ALL</u> maintenance checks in the periodic check list in section 3.
- Test drive before putting into normal service.

SCHEDULED MAINTENANCE
AND
SERVICE PROCEDURES

This section explains how to perform the scheduled maintenance procedures. Use the Maintenance Checklist to determine how often you should perform each procedure. Vehicle maintenance or repairs should only be performed by a qualified mechanic.

This section contains the following:

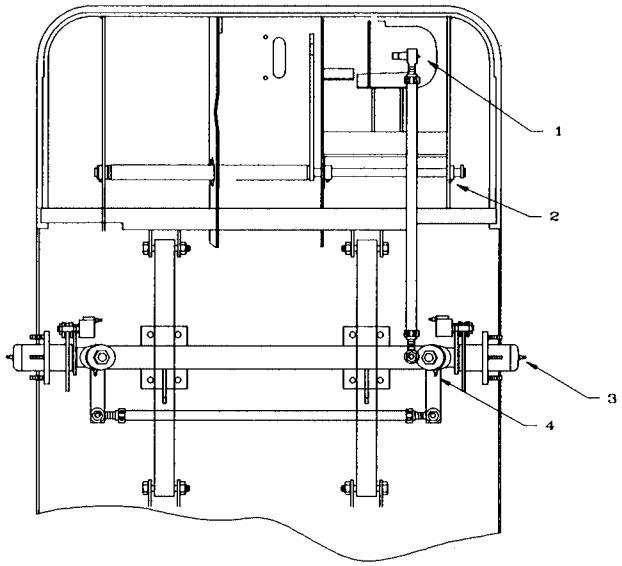
- Maintenance guidelines.
- Maintenance checklist.
- Lubrication chart.
- Troubleshooting guide.
- Recommended spare parts list.
- Detailed maintenance procedures.

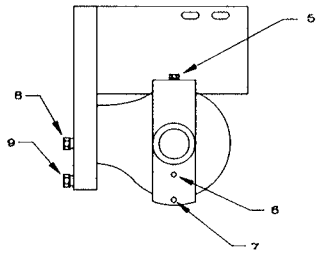
MAINTENANCE GUIDELINES

Allow only qualified and authorized personnel to maintain repair adjust and inspect the vehicle.
Before starting any repairs or maintenance immobilize the vehicle by turning the key switch off, removing the key and setting the park brake.
Disconnect both of the main battery leads before working on or disconnecting any electrical component or wire.
Block the chassis with jack stands before working under a raised vehicle.
Conduct vehicle performance checks in an authorized area where safe clearance exists.
Before starting the vehicle follow the recommended safety procedures in Section 2, "Vehicle Operation."
Avoid fire hazards and have fire protection equipment present in the work area. Do not use an open flame to check level or leakage of battery electrolyte. Do not use open pans of fuel or flammable fluids for cleaning parts.
Ventilate the work area properly.
Regularly inspect and maintain in a safe working condition, brakes, steering mechanisms, speed and directional control mechanisms, warning devices, lights, governors, guards and safety devices.
Inspect and maintain battery limit switches, protective devices, electrical conductors and connections in conformance with Taylor-Dunn's recommended procedures.
Keep the vehicle in clean condition to minimize fire hazards and facilitate detection of loose or defective parts.

PERIODIC MAINTENANCE CHECKLIST					
Maintenance Item	Weekly (20 hrs)	Monthly (80 hrs)	Quarterly (250 hrs)	Semi-yearly (500 hrs)	Yearly (1000 hrs)
Check tire pressure (90 psi)	X				
Check and fill batteries (use distilled water only)	X				
Check foot brake system. Adjust if necessary		X			
Check steering for play. Adjust as necessary		X			
Check brake cables		X			
Check steering spline coupling set screw.		X			
Lubricate all Zerk fittings			X		
Lubricate all moving parts without Zerk fittings (use all-purpose oil)			X		
Clean and tighten all wire connections			X		
Wash batteries with water (use soda if necessary)			X		
Check brake lining for wear. Adjust as necessary				X	
Check and adjust front wheel bearings				X	
Check rear axle oil				X	
Change rear axle oil					X
Check nuts and bolts, particularly engine and drive train					X
Clean and re-pack front wheel bearings (use wheel bearing grease).					X

LUBRICATION CHART





#	Description	Locations	Lubricant type
1	Steering ball joints	4	General purpose grease
2	Brake pedal linkage	3	General purpose grease
3	Front wheel bearings	2	General purpose grease
4	King pin	2	General purpose grease
5	Drive fill plug	1	SAE 140 API GL-5 hypoid gear oil
6	Drive level plug	1	
7	Drive drain plug	1	
8	Chain case fill/level plug	1	SAE 140 API GL-5 hypoid gear oil
9	Chain case drain plug	1	

TROUBLESHOOTING GUIDE

SYMPTOM	PROBABLE CAUSE*
Steering pulls in one direction	Unbalance tire pressure
	Front end out of alignment
Hard steering	Low tire pressure
	Dry lube points in steer linkage
	Damaged king pin/Ball joint
Excessive steering play	Worn ball joints
	Mis-adjusted or worn steer gear
	Loose steering linkage
Lack of power or slow operation	Brake dragging
	Parking brake dragging
	Worn drive gears
	Front end out of alignment
	Defective speed control
Abnormal noise	Worn Drive gears or bearings
	Worn axle bearing (front or rear)
	Loose wheel lug nuts
	Motor bearings worn
Oil leak in rear wheel bearing area	Wheel bearing and/or gasket failed
	Drive overfilled
Brake pedal soft or spongy	Air in brake lines
Brake pedal low	Brake worn (1/16" wear limit)
	Brake fluid low
	Brakes out of adjustment
Braking power low	Brakes worn (1/16" wear limit)
	Brake shoes/pads contaminated with fluid
	Brake pedal linkage binding
	Brakes out of adjustment
	Air in brake lines
* Probable causes are to be used as a guide only. They are not all inclusive of the problems that can result with the symptom indicated	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BRAKES

⚠CAUTION

Do not drive the vehicle if any worn or broken part is detected in any part of the brake system. The cause of the damage must be repaired immediately.

The brake system is a 4 wheel hydraulic disc brakes. Hydraulic disc brakes are not adjustable and only require periodic inspection to insure that they are in good operating condition.

Rear brake pads

The rear brake rotors are an integral part of each rear axle. If the rotors are damaged or worn the rear axle must be replaced.

REPLACING THE BRAKE PADS

1. Raise the rear end and support it.

⚠WARNING

Always use jack stands when supporting the vehicle.

2. Remove the rear wheels.
3. Remove the two 1/4" brake body bolts.

⚠CAUTION

At this point there is nothing retaining the brake cylinder. Do not let it hang by the brakes hose.

4. Inspect the spacers for wear and replace as necessary.
5. Replace the spacer bushings.
6. Re-assemble the brake in reverse order.

⚠WARNING

The 1/4" gr. 8 lock nuts for the brake body bolts must be replaced.

A) Tighten the new retaining bolt lock nuts to 11 ft lbs.

7. Test drive

Front brake pads

The front brake rotors are an integral part of the front hub. If the rotors are damaged or worn the front hub must be replaced.

REPLACING THE BRAKE PADS

1. Raise the front end and support it.

⚠WARNING

Always use jack stands when supporting the vehicle.

2. Remove the front wheels.
3. Remove the two 1/4" caliper retaining bolts.

NOTE *At this point there is nothing retaining the brake cylinder. Do not let it hang by the brakes hose.*

4. Inspect the spacers for wear and replace as necessary.
5. Replace the spacer bushings.
6. Re-assemble the brake in reverse order.

⚠WARNING

The 1/4" gr. 8 lock nuts for the brake body bolts must be replaced.

A) Tighten the new retaining bolt lock nuts to 11 ft lbs.

7. Test drive.

Repairing the brake body

1. Remove the brake body. Refer to replacing the brake pads.
2. Carefully remove the two pistons, rubber boots and o-rings.

⚠CAUTION

The pistons are very brittle and break easily

3. Clean and dry the brake body completely.

⚠CAUTION

Make sure there are no contaminants left in the brake body.

4. Inspect the interior of the brake body. If any damage or wear is found it must be replaced.
5. Re-assemble the brake body using clean DOT 5 brake fluid as a lubricant.

NOTE *Use tool #41-350-13 to install the rubber boots*

6. Install the brake body.

⚠WARNING

The 1/4" gr. 8 lock nuts for the brake body bolts must be replaced.

A) Tighten the new retaining bolt lock nuts to 11 ft lbs.

7. Bleed the brakes.
8. Test drive

Parking Brake

PRIMARY ADJUSTMENT

1. Block the wheels.
2. Release the parking brake
3. Turn the parking brake handle to adjust.
4. The brake should be adjusted to hold firmly but with no drag when released.

SECONDARY ADJUSTMENT

1. Block the wheels.
2. Release the parking brake.
3. Back off the primary adjustment (previous section).
4. Loosen the jam nut on the 1/2" brake band bolt.
5. Tighten the brake band bolt as necessary. There should be no drag on the brake band
6. Tighten the jam nut.

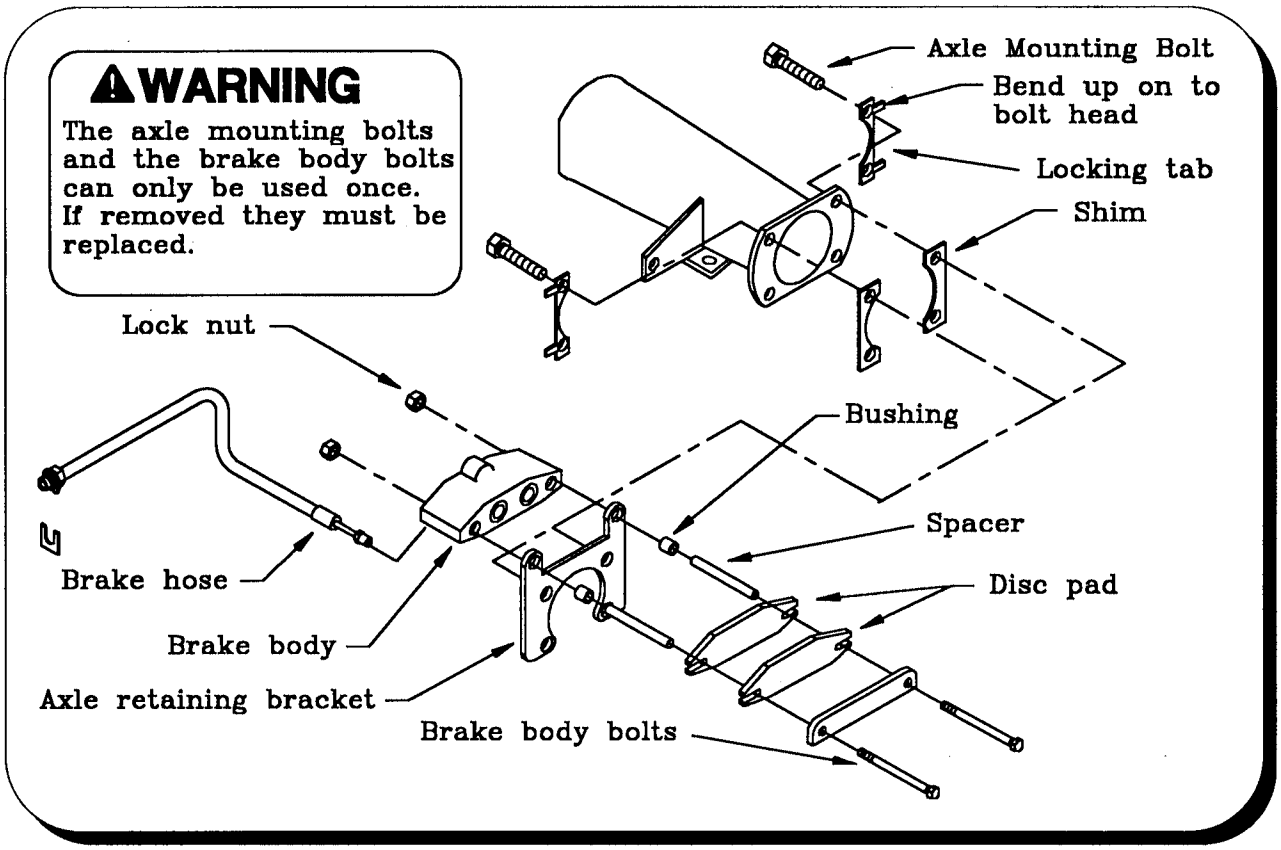
NOTE *It will be necessary to readjust the primary parking brake adjustment.*

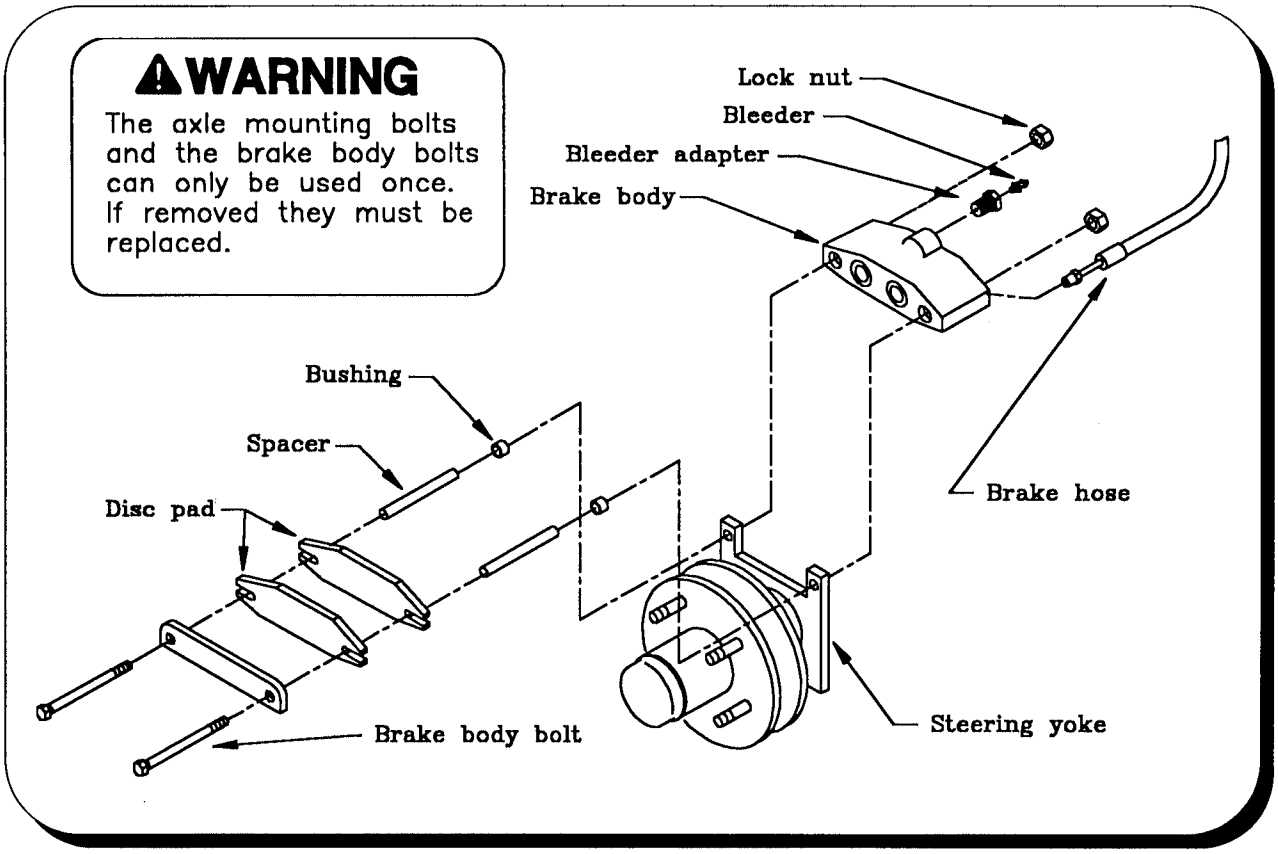
Parking Brake Cable

Visually inspect the brake cable for signs of wear or cracks. Visually inspect the end connections for broken wire strands.

⚠WARNING

Replace any worn or damaged cables immediately


WARNING
The axle mounting bolts and the brake body bolts can only be used once. If removed they must be replaced.
Axle Mounting Bolt
Bend up on to bolt head
Locking tab
Shim
Lock nut
Bushing
Spacer
Brake hose
Disc pad
Brake body
Axle retaining bracket
Brake body bolts


WARNING
The axle mounting bolts and the brake body bolts can only be used once. If removed they must be replaced.
Lock nut
Bleeder
Bleeder adapter
Brake body
Bushing
Spacer
Disc pad
Brake hose
Brake body bolt
Steering yoke

FRONT AXLE/STEERING

Removal

1. Disconnect the batteries.
2. Lift the front end and support with jack stands.
3. Block the rear wheels to prevent the truck from rolling.
4. Remove both front wheels.
5. Disconnect the brake hoses from the disc brake bodies.

⚠CAUTION

Brake fluid will drip from the open brake lines.

6. Remove the drag link from the left (driver) side steering yoke.
7. Remove the u-bolts holding the axle to the springs.

⚠CAUTION

Support the axle with additional stands or tie it up to the frame to prevent it from falling.

8. Remove the lower bolts from the rear front spring hangers.
9. Remove the axle from the truck.

Installation

1. Install in reverse order.
2. Tighten spring hanger snugly but still allowing the spring to pivot.
3. Tighten the drag link ball joint to 40-45 ft. lbs.
4. Bleed the front brakes and check for leaks.

Aligning the Front End

Caster and camber are set at the factory and do not require adjustment.

1. Raise the front end of the vehicle and support with jack stands.
2. Center the steering.
3. With a piece of chalk mark a line around the center of both tires by holding the chalk against the tire while turning the wheel.
4. Loosen the ball joint clamps at each end of the tie rod so the adjusting sleeve can be turned.
5. Lower front end back on the ground.
6. With the wheels in the straight forward direction measure the distance between chalk lines at the front and the rear of the tires.
7. Adjust the tie rod sleeve until the distance from mark to mark across the front of the tires is the same as the distance from mark to mark across the rear.
8. Tighten the ball joint clamp nuts securely.

Centering the steering

1. Remove the pitman arm from the steering gear.
2. Align the front wheels straight ahead and tie or clamp in position..
3. Center the steering gear.
   - **A)** Turn the gear all the way to the left.
   - **B)** Turn back three turns and tie off so it can not move.
4. Install the pitman arm while keeping the front wheels in the straight ahead position. Tighten nut to 70 ft lbs.
5. Remove and center the steering wheel on the steering shaft while keeping the front wheels in the straight ahead position.
6. Install the steering wheel nut and cap.

Repair

Steering yoke/bushings

1. Remove the bearing cap, spindle nut and the wheel/hub assembly.

⚠CAUTION

Catch the outer bearing as it falls out. If the bearing falls on the ground it MUST be cleaned if it is reused.

2. Remove the drag link and tie rod from the yoke (only if the yoke is to be replaced).
3. Remove the king pin nut.
4. Slide the yoke out from the bottom.
5. Clean and replace as necessary, bearings, bushings, thrust washers.

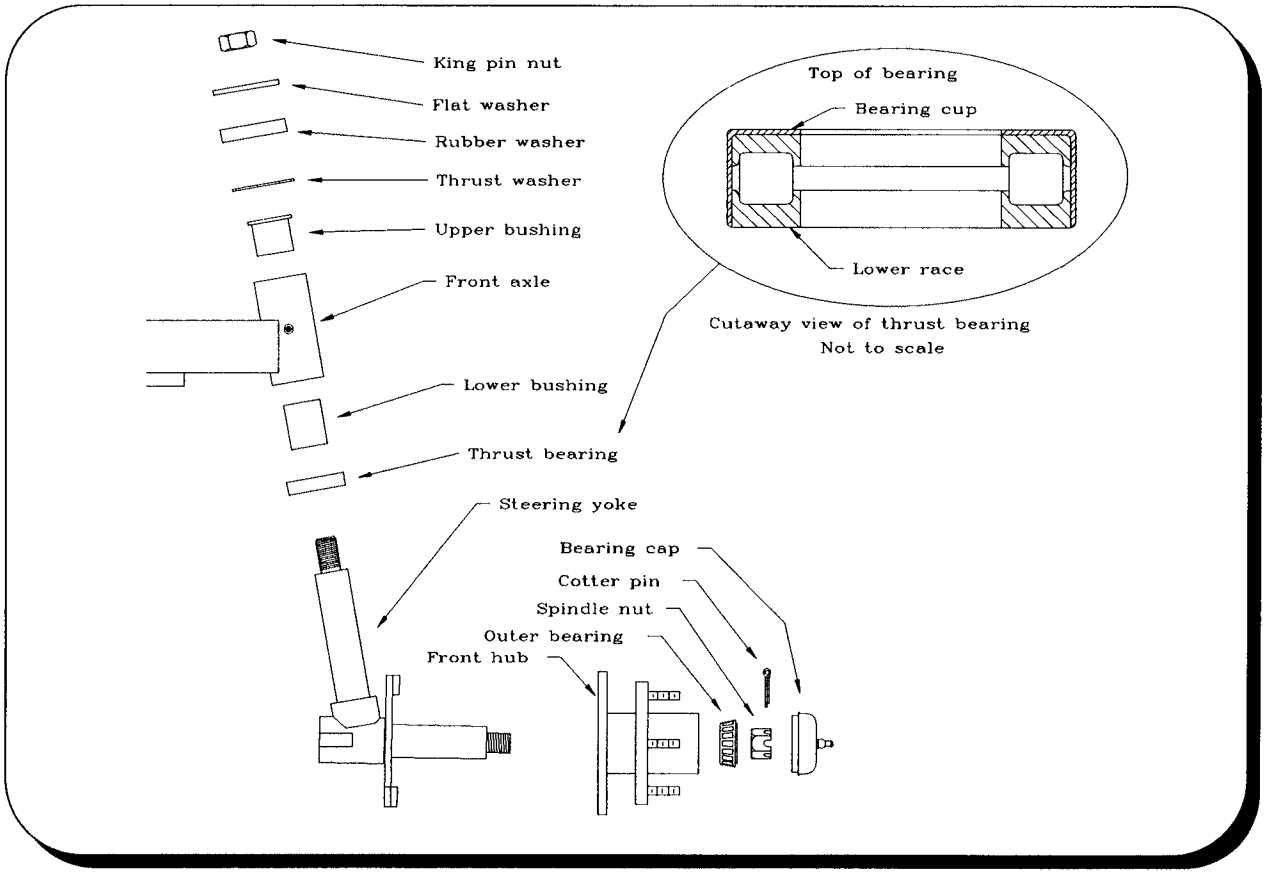
If the bushings are replaced they must broached or reamed to 1.128 +0/-.001 after they are pressed into the axle.

6. Install in reverse order.
7. Clean and pack the thrust bearing with grease.

⚠CAUTION

The thrust bearing must be orientated correctly. See figure below.

8. Tighten the king pin nut completely against the shoulder of the king pin.
9. Tighten the drag link ball joint nut (if it was removed) to 40-45 ft. lbs. Use a **NEW** cotter pin.
10. Install the front whee/hub assemblyl.
    - **A)** Tighten spindle nut to 30 ft. lbs. to seat bearings.
    - **B)** Back off spindle nut to the next slot on the nut and install a **NEW** cotter pin.
11. Install the bearing cap.



Wheel bearings

1. Remove the tire/wheel assembly.
2. Remove the bearing cap and spindle nut.
3. Remove the hub from the spindle.

⚠CAUTION

Catch the outer bearing as it falls out. If the bearing falls on the ground it MUST be cleaned if it is reused.

4. Clean ALL grease from the inside of the hub and bearings.
5. Inspect and replace the races and bearings as a set as necessary.

⚠CAUTION

It is recommended to replace both left and right side wheel bearings at the same time.

6. Assemble in reverse order. Use a new grease seal.
   - **A)** Pack inner and outer bearings with grease.
   - **B)** Tighten the spindle nut to 30 ft. lbs. while rotating the hub to seat bearings.
   - **C)** Back off spindle nut to the next slot on the nut and install a **NEW** cotter pin.
7. Install the bearing cap.

Ball joints

⚠CAUTION

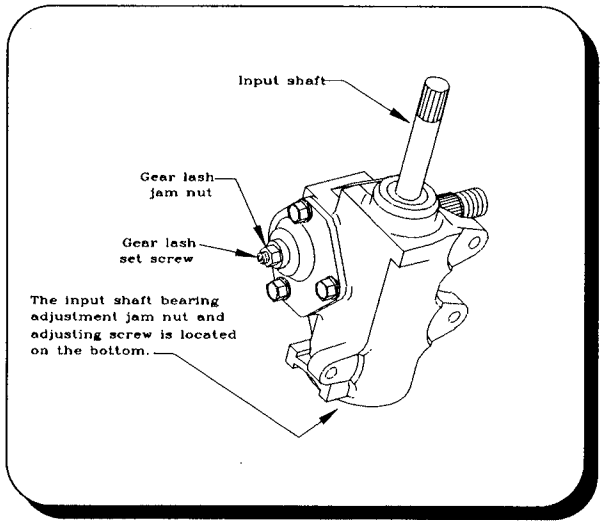
It is recommended to replace all the ball joints as a set.

1. Loosen the ball joint clamp. Note its position on the sleeve.
2. Remove the ball joint nut. and then remove the ball joint using a pickle fork.
3. Count the number of turns while removing the ball joint from the drag link or tie rod.
4. Lightly lubricate the threads on the new ball joint and install into the drag link or tie rod counting the same number of turns as when removed.
5. Install the ball joint into the steering arm and tighten nut to 40-45 ft, lbs. Use a **NEW** cotter pin.
6. Lube the new ball joint.
7. Realign the front wheels.
8. Tighten the ball joint clamps securely.

⚠CAUTION

Make sure the clamps are in there original position noted in step 1. Turn the steering all the way from left to right to make sure there is no interference.

Steering gear adjustment

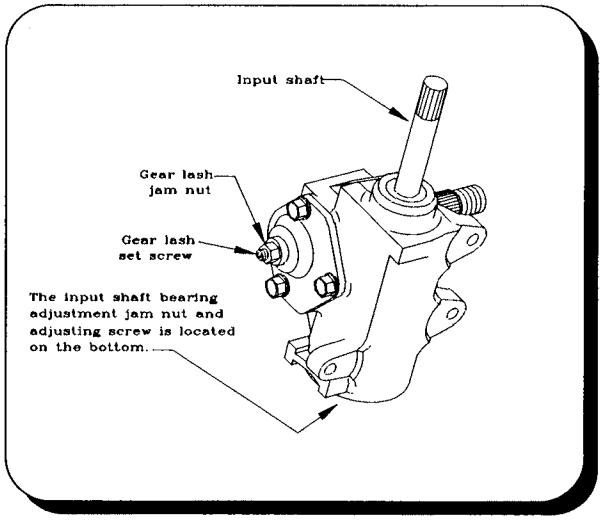


End play

1. Loosen the input shaft bearing adjustment jam nut.
2. Tighten the adjusting nut so that there is no end play or wobble in the input shaft.
3. Tighten the jam nut.

Gear lash

1. Remove the pitman arm. Note its position.
2. Loosen the jam nut for the gear lash set screw.
3. Tighten the set screw so that there is a slight drag when the steering gear passes through the center of its travel (about 3 turns from lock).
4. Tighten the jam nut. Do not allow the set screw to turn while tightening.
5. Install the pitman arm in its original position. Tighten to 70 ft. lbs.

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DRIVE AXLE

Power Traction Assembly

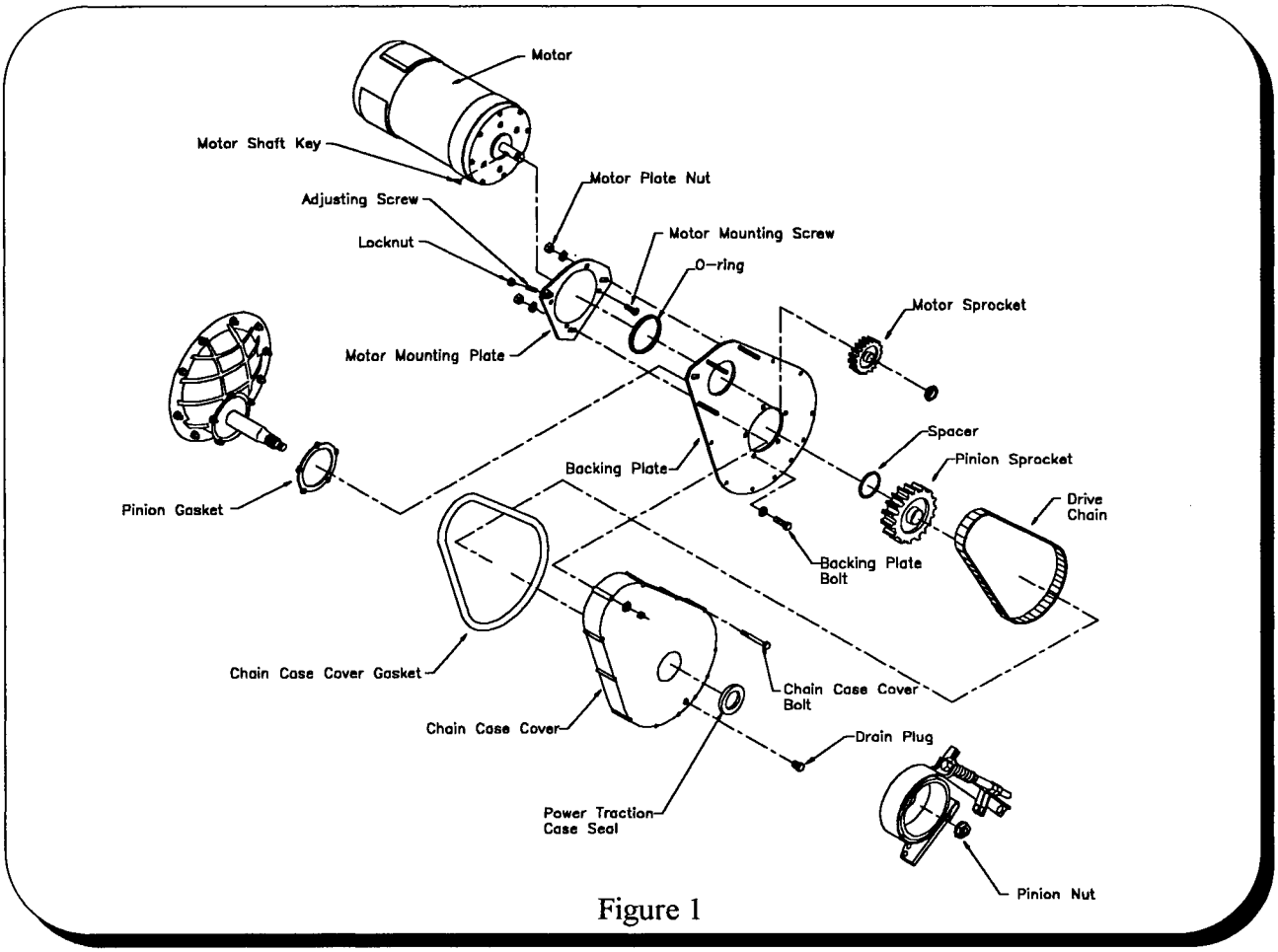


Figure 1

Drive Chain Adjustment

1. Disconnect the main positive and negative battery cables.
2. Set the parking brake.
3. Place a drip pan under the chain case to catch any oil that may spill.
4. Loosen the three motor mounting plate nuts to let the motor mounting plate move freely.
5. Loosen the chain adjusting screw jam nut.
6. Turn the chain adjusting screw so that the ends of the motor fan blades have 1/8" to 1/4" free play.
7. Tighten the three motor mounting plate nuts.
8. Tighten the adjusting screw lock nut while preventing the adjusting screw from turning.
9. Reconnect the main battery leads.

NOTE *If the top of the adjusting screw is close to the jam nut (1/16") it is time to replace the drive chain.*

Chain adjustment schedule	
Interval	Period
First	100 hours
Second	200 hours
Following	Every 400 hours

Motor Removal

1. Disconnect batteries
2. Disconnect all power leads to the motor.
3. Support the motor with a hoist and strap of sufficient capacity.
4. Remove the chain adjusting screw
5. Remove the three motor mounting nuts and washers.
6. Remove the motor by lifting the back end of the motor and rotating the motor clockwise, which will move the adjusting tab off of the flat on the chain case plate. The motor with the mounting plate attached should be able to slide out from under the chain.

⚠CAUTION

Do not move the vehicle at this time as this may cause the chain to become jammed inside the chain case cover.

Motor Installation

1. Clean all mounting surfaces on the motor and mounting plates.
2. Make sure the o-ring is seated correctly in the motor mounting plate.
3. With a wire formed in to a hook, tie the chain up to the upper slot on the backing plate.
4. Install the motor on to the chain case backing plate and slip the sprocket under the chain.

NOTE *The chain must be properly seated on the large sprocket for proper installation to the motor sprocket.*

5. Install a mounting nut holding the motor mounting plate and motor to the chain case backing plate and leave loose.
6. With the chain loosely on the upper sprocket, remove any wire used to support the chain.

⚠CAUTION

Do not allow the wire to break. If the wire breaks the chain case must be disassembled to get it out.

7. Move the vehicle slightly. The motor armature should rotate. If the armature does not rotate, then the chain is not seated properly.
8. Install the remaining hardware onto the mounting studs and finger tighten.
9. Adjust the chain tension as instructed in 'Drive Chain Adjustment' in this section.

NOTE *If the chain is not seated properly the motor will not be able to turn after the mounting nuts are tightened.*

Power Traction

1. Disconnect the batteries
2. Remove the drain plug and drain the oil from the chain case.
3. Remove the brake band assembly.
4. Remove the pinion nut and brake drum from the pinion shaft.
5. Remove the remaining bolts and nuts holding the cover to the backing plate, and remove the chain case cover.
6. Loosen the chain adjusting screw completely.
7. Remove the chain, pinion sprocket, and spacers from the pinion shaft. Note the spacer position and location for re-assembly.
8. Remove the chain from the motor sprocket and remove the motor.
9. Replace as necessary, chain, sprockets.
10. Assemble in reverse order. Use new gaskets and pinion seal.

11. Insert a centering tool (Taylor-Dunn # 41-532-01) on to the chain case cover to center the power traction case seal.

⚠CAUTION

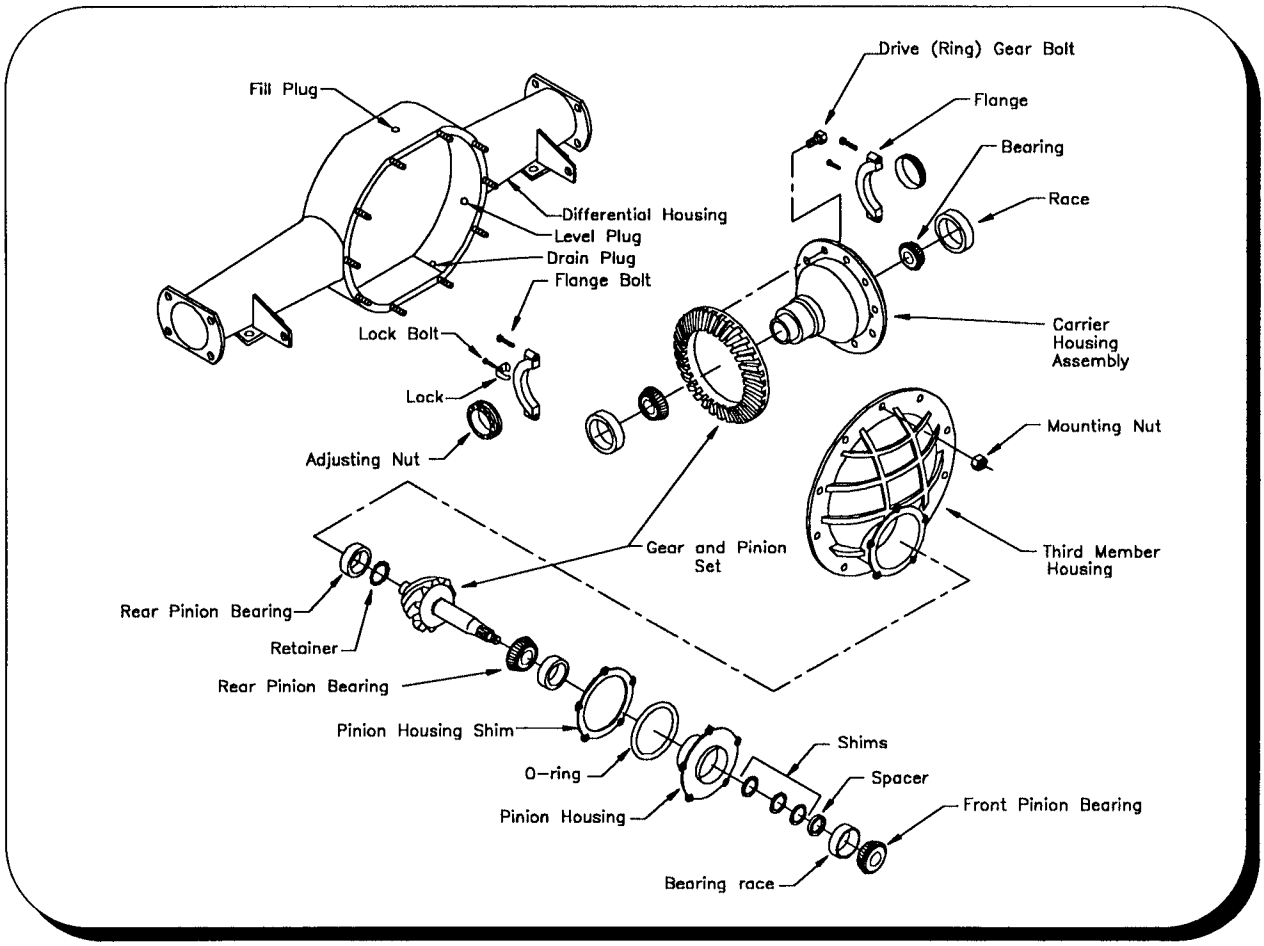
If the chain case is not centered correctly oil will leak on to the parking brake.

12. install the old pinion nut, tighten to 100 ft-lbs.
13. Install the brake band assembly.
14. Tighten the chain case cover mounting bolts to 20 ft-lbs torque.
15. Remove the old pinion nut and install a new pinion nut, tighten to 175 ft-lbs.
16. Adjust the chain tension as instructed in 'Drive Chain Adjustment' in this section.
17. Fill the chain case with oil.

Differential Service and Repair

NOTE *It is not necessary to remove the entire drive assembly from the vehicle to perform this procedure. It is also not necessary to remove the axles from the differential housing. The housing is shown without the axles for clarity.*

1. Raise the drive wheels and support with jack stands.
2. Drain the oil from the Power Traction chain case and drive.
3. Remove the motor and Power Traction assemblies.
4. Remove the rear wheels and brakes.
5. Using a slide hammer, remove the axles about 4" from the drive housing.
6. Remove the 3rd member mounting nuts and remove the 3rd member from the drive housing.



7. Remove the carrier bearing flanges and the carrier assembly from the housing.
8. Remove the pinion housing assembly from the 3rd member.

⚠CAUTION

Do not lose the shims!

9. Replace as necessary, bearings/races and gears.
10. Assemble in reverse order.
    - **A)** Pre-lube all bearings and gears during assembly.
    - **B)** Cross tighten ring gear bolts to 72 ft. lbs.
    - **C)** If the pinion bearings or gears are replaced the drive must be re-shimed (see next section).
    - **D)** Use new seals.

Adjust the backlash as follows

1. Install the correctly shimmed pinion gear housing and pinion gear.
2. Temporarily install the drive sprocket and brake drum. Torque the pinion nut to 100 ft. lbs.
3. Tighten the carrier bearing cap bolts to 15 ft. lbs.
4. Position the carrier assembly against the pinion gear and turn the adjusting nuts to contact the carrier bearings.
5. Loosen the adjusting nut on the toothed side of the ring gear slightly.
6. Tighten the other nut so that there is no gear backlash but not so tight as to cause binding.
7. Tighten the adjusting nut on the tooth side of the ring gear so that there is .008 to .012 backlash.
8. Tighten the carrier bearing cap bolts to 40-55 ft. lbs.

Re-shimming pinion bearings

1. Remove the pinion housing from the 3rd member.
2. Install the drive gear and brake drum (or equivalent spacer) on to the pinion shaft and tighten to 100 ft. lbs.
3. The pinion gear should turn freely with zero radial play.

⚠CAUTION

Do not rotate bearings when dry, they must have a lubricant or they will be damaged.

4. Add or remove shims as necessary.

Selecting pinion housing Shims

Shims are available from 0.005" to 0.021" thickness in increments of 0.001" to correctly position the pinion gear. The standard shim is 0.015" thick.

The following numbering system is used on pinions to indicate the amount you must add to or subtract from the standard shim. Locate the number on the flat surface on the small shaft end of the pinion gear. Match the number with the shim required for proper mating of the ring and pinion gears.

Pinion numbering system	
If number is	Add shim as follows
+0	No adjustment
+1	Add .001 shim
+2	Add .002
+3	Add .003
+4	Add .004
+5	Add .005
-1	Subtract .001 shim
-2	Subtract .002
-3	Subtract .003
-4	Subtract .004
-5	Subtract .005

Differential Oil

1. Place a drain pan under drive that can hold 3 quarts.
2. Remove the differential and chain case drain plugs.
3. Replace the drain plugs and remove the differential fill and level plugs.
4. Install oil into the differential through the filler hole until the oil starts to come out of the level hole (about 2 quarts).
5. Install the level plug.
6. Add an additional 1/2 quart (for chain case, it will be pumped in from the differential).
7. Install the remaining plugs

Rear Axle and Bearing Replacement

1. Raise the drive wheels and support with jack stands
2. Remove the rear wheel.
3. Remove the brake assembly.

⚠CAUTION

Do not let the brake assembly hang by the brake hose.

4. Using a slide hammer, remove the axle from the housing.
5. Press the retainer ring and bearing from the axle shaft.
6. Press a new bearing and retainer ring onto the axle.

⚠WARNING

Do not reuse the old bearing retainer

7. Remove and replace the oil seal and/or gaskets from the housing.
8. Install in reverse order.
   - **A)** Use new locking tabs on brake bolts.
   - **B)** Tighten the brake bolts to 35-40 ft. lbs.

⚠WARNING

Failure to properly bend up the locking tabs could cause the mounting bolts to loosen and result in brake failure.

DRIVE MOTOR

Dis-assembly

1. Remove the motor from the chain case.
2. Remove the key(s) from the shaft(s).
3. Remove the front bell housing.
4. Pull the armature out from the motor housing.
5. Remove the rear bell housing.

Replacing the brushes

1. Remove the Brush covers.
2. Remove the brush wire from the brush holder.
3. Pull the brush straight out from the brush holder.

NOTE *Hold the spring so it does not snap back down into the holder.*

4. Install in reverse order.

NOTE *Minimum service length is .75". It is recommended to replace the brushes as a set.*

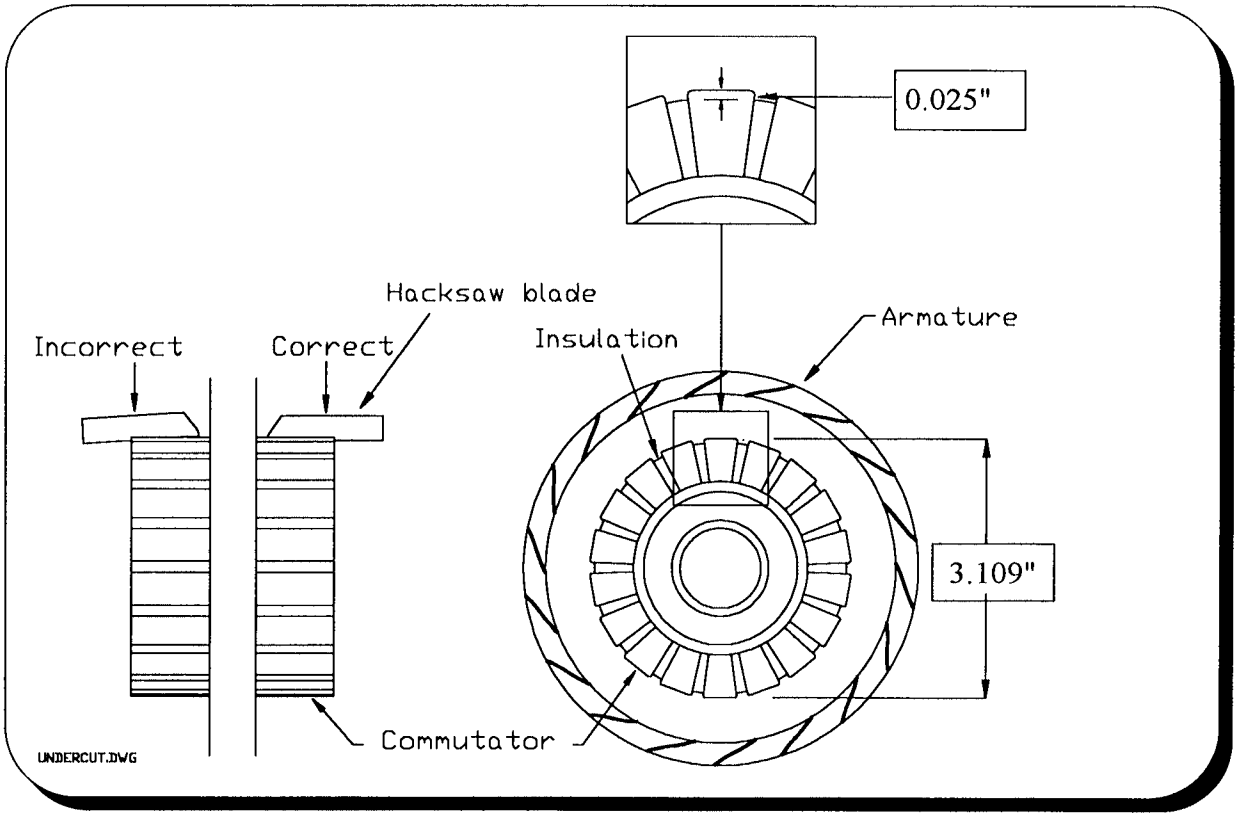
Inspecting the armature

1. If any solder has been thrown from the armature the motor must be replaced.

NOTE *Check the inside of the motor housing around the commutator for bits of solder.*

2. If the commutator is grooved it must be cut on a lathe.
3. Measure the undercut on the commutator.
   - **A)** If less than .025" then the mica must be undercut. See diagram.
4. Measure the commutator diameter.
   - **A)** If less than 3.109" then the armature is worn out and the motor must be replaced.
5. Spin the bearings by hand.
   - **A)** If any vibration or roughness is felt they must be replaced.

NOTE *It will require a press to replace the bearings.*



BATTERIES/TIRES

Battery

⚠WARNING

Battery electrolyte is poisonous and dangerous. It contains sulfuric acid . Avoid contact with skin eyes or clothing. Wear rubber gloves and safety glasses while servicing batteries. DO NOT INGEST!!

Batteries produce an explosive gas when charging. DO NOT SMOKE, produce an open flame or spark while checking or servicing a battery.

Cleaning

1. Dry dirt can be readily blown off with low pressure air or brushed off.
2. Wetness or wet dirt on the covers indicates battery acid. Using a nonmetallic brush with flexible bristles wash it off with a strong solution of baking soda and hot water (1 lb. of soda to gallon of water). Continue until all fizzling stops which indicates that the acid has been neutralized. Then rinse thoroughly with clear water. DO NOT get any of the solution into the battery cells.

Servicing

1. Check the electrolyte level in all batteries. If low fill with distilled water up to the correct level (see diagram).

⚠CAUTION

Do not overfill the battery. An overfilled battery may leak acid.

2. Clean the battery (see above).
3. Clean the cell posts connectors and battery box with water.

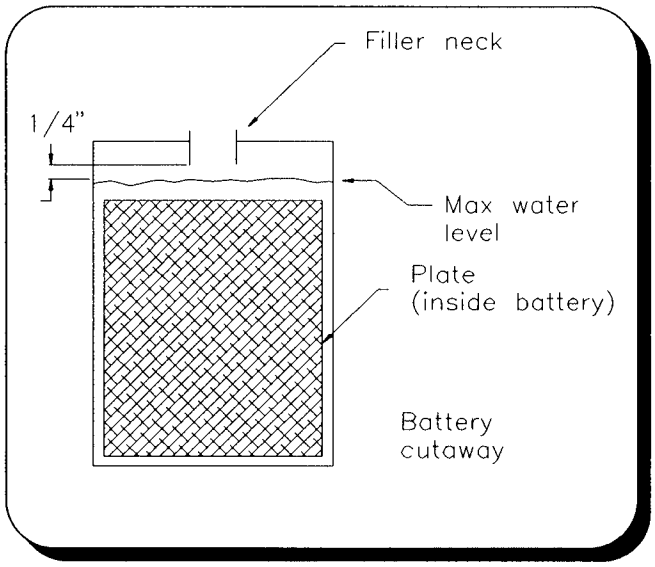
Charging

⚠WARNING

Explosive mixtures of hydrogen gas are present within battery cells at all times. Do not work with or charge battery in an area where open flames (including gas furnace or water heater pilots), sparks, cigarettes or any other source of combustion are present. Always provide ample ventilation in rooms where batteries are being charged.

To charge the battery do the following:

1. Check the electrolyte level. If low, fill with distilled water up to the correct level (see diagram).
2. Park the vehicle in an approved area for charging and plug the charger in.
3. Allow the charger to cycle completely before unplugging.



BATTERY STORAGE

The following pointers will help extend the life of the battery when storing your vehicle for the winter season:

- Clean and check the electrolyte level and charge level of the battery. Do not store a battery low in electrolyte or in a low state of charge.
- Recharge a battery not in use every 1 to 2 months.
- If possible store the vehicle in a cool dry place.
- If the batteries are removed from the vehicle do not place them directly on the ground, concrete or solid metal surface. It is recommended to store them on a wooden pallet or equivalent.

Tires

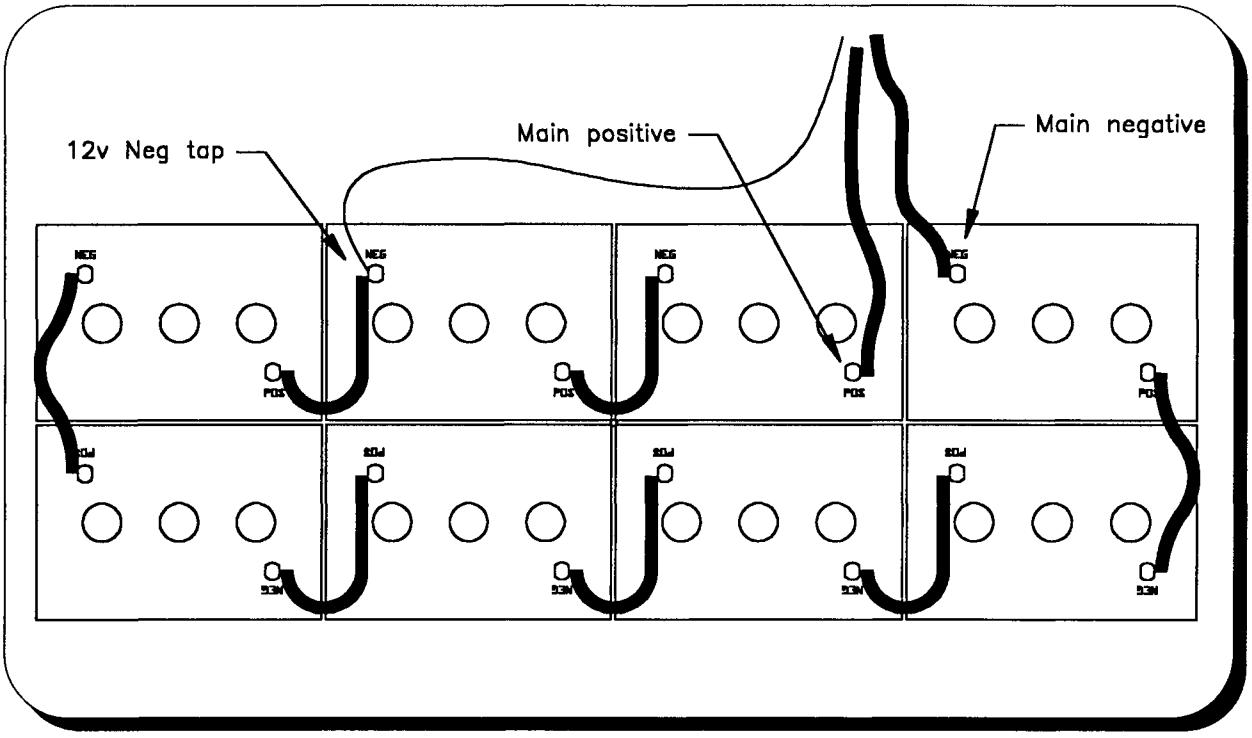
1. Check the tires for nicks or grooves and replace if necessary.
2. Ensure that the tire is properly seated on the rim.
3. Check the air pressure in the tires and inflate as necessary to 90 PSI.

⚠CAUTION

Avoid over-inflating or under-inflating tires as both these conditions cause increased tire wear or a tire blowout.

⚠WARNING

When mounting tires: Unless beads are seated inflation over 32 psi can result in a fatal explosion.



Battery cable routing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ELECTRICAL SYSTEM

ELECTRICAL TROUBLESHOOTING

⚠WARNING

Please refer to Section 1, "SAFETY / GENERAL INFORMATION" before performing any repairs / maintenance on this vehicle

Raise rear wheels off the ground during all tests. After repairs, thoroughly test the truck before lowering to the ground.

The following repairs should be performed only by a qualified electrical mechanic.

➢TEST EQUIPMENT NEEDED

1. Volt/Ohm meter.
2. 62-027-00 Test light or equivalent (equal to rated battery voltage of truck).
3. 62-027-31 Accelerator module test harness.

NOTE *Check all power wiring for loose connections.*
Check battery status and charge as necessary
Check all interlock switches (as equipped) for continuity.
All voltage tests are reference battery negative unless otherwise specified.
All tests with key switch on and interlock switches closed (ON).

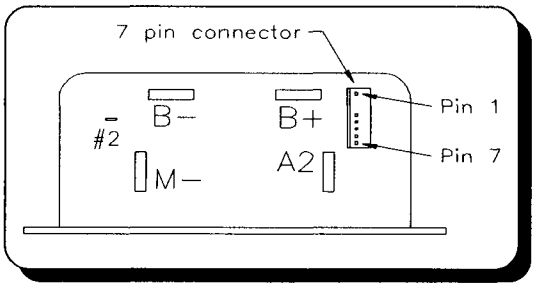
*These tests **MUST** start here and be followed in the order written. Starting the tests in the middle or skipping when not instructed can give the wrong conclusions.*

START

If the truck runs in one direction only, go to CONTACTORS 1.
If the truck runs or accelerates slow or does not run at all **and** motor current is high then go to PMC.

CONTROL/POWER WIRE INPUT AT THE CONTROLLER

1. Place the forward-reverse switch in forward.
2. Step on the accelerator pedal to engage MS1 **only** (creep speed).
3. Test volts at Pin 2 (Orange/Black) on the controller.
   - **A)** IF not 6-6.5v, go to ACCELERATOR MODULE
4. Test volts at Pin 1 on the controller 7-pin connector.
   - **A)** If not battery volts, go to KEY SWITCH.
5. Test volts at Pin 6 (Blue/black) on the controller 7-pin connector.
   - **A)** If not battery volts, check wiring, forward-reverse switch, and key switch. >>END



PMC controller

6. Test volts across B- and B+ at the PMC.

   A) If not BATTERY volts then go to CONTACTORS 1.

7. Place the forward-reverse switch in reverse.
8. Step on the accelerator pedal to engage MS1 only (creep speed).
9. Test volts at Pin 7 (White/black) on the controller 7-pin connector.

   A) If not BATTERY volts, check wiring, forward-reverse switch, key switch. >>END

10. Referencing battery positive, test volts at Pin 3 (Black).

    A) If not negative (-) battery volts, the controller is bad.

11. Test volts at Pin 2 (Orange/Black) on the controller.

    A) If not 6-6.5 volts, go to ACCELERATOR MODULE.

12. Depress the accelerator pedal **fully**.
13. Test volts at Pin 2 (Orange/Black) on the controller.

    A) If not 11 - 11.5 volts, go to ACCELERATOR MODULE.

14. Release the accelerator and turn the key switch off.

POWER WIRING

1. Disconnect the batteries.
2. Remove the resistor on the isolator contactor.
3. Test the main circuit breaker for continuity.

   A) If not 0 ohms, replace the circuit breaker. >>END.

4. Reconnect the batteries.
5. Turn the key switch on.
6. Place the forward-reverse switch in forward.
7. Connect the test light across the controller B+ and M- terminals.

   A) Depress the accelerator fully

   B) .If the light **does not** turn on, the controller is bad. >>END

8. Connect test light across the motor S1 and S2 terminals.

   A) Depress the accelerator fully

   B) If the light **turns ON**, the motor field is open. >>END

9. Connect test light across the motor A1 and A2 terminals.

   A) Depress the accelerator fully

   B) If the light **turns ON**, the armature is open. >>END

Go to **CONTACTORS 1.**

ACCELERATOR MODULE

NOTE *These tests are done using Taylor-Dunn test harness # 62-027-31*

1. Unplug the accelerator pigtail from the accelerator.
2. Connect the test harness male connector to the accelerator pigtail, and the companion female connector to the accelerator, leaving the other end (female connector) free.
3. Turn the key switch ON.
4. Place the forward-reverse switch in forward.
5. Depress the accelerator pedal to engage MS1 **only** (creep speed).

6. Test volts at the test harness Pin 4.
   A) If not battery volts, go to KEY SWITCH.
7. Test volts across Pin 4(+) and Pin 9(-).
   A) If not battery volts, check the wiring from pin 9 to the circuit breaker and the circuit breaker. >>END
8. Test volts at Pin 2.
   A) If not 6-6.5 volts, the module is bad. >>END
9. Test volts at Pin 5.
   A) If not battery volts, the module is bad. >>END
10. Depress the accelerator pedal **fully**
11. Test volts at Pin 2.
   A) If not 11-11.5 volts, the module is bad. >>END
12. If volts at Pin 2 on the module are good but volts at Pin 2 on the controller are bad, check the wiring and connectors from the accelerator module to the seat switch to the PMC controller. >>END

If you reached this point and did not locate the problem, you either have an unanticipated failure or you may not have performed the tests correctly.

KEY SWITCH

1. Turn key switch on.
2. Test voltage on both terminals at the key switch.
   A) If only one terminal is at BATTERY volts then the switch is bad. END.
   B) If both terminals are not at BATTERY voltage then check the wiring to the main circuit breaker. END.
   C) If the voltage is good at both terminals then check the wiring to the directional switch and the directional switch for opens. END.

If you reached this point and did not locate the problem, you either have an unanticipated failure or you may not have performed the tests correctly.

CONTACTORS 1

If the truck runs in forward only, go to FORWARD ONLY
If the truck runs in reverse only, go to REVERSE ONLY

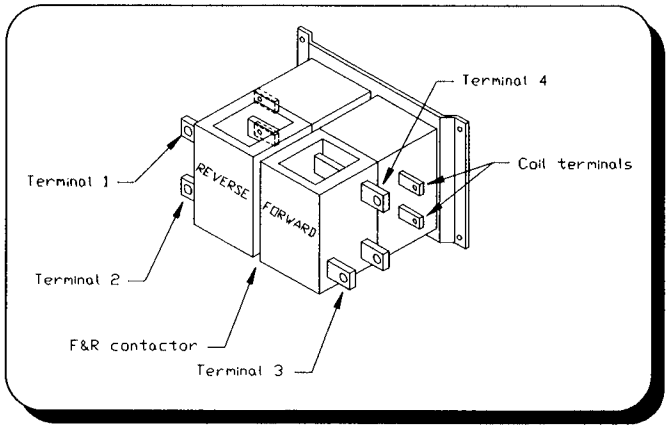
1. Turn the key switch on, depress accelerator pedal to engage MS1.
   A) If the isolator contactor clicks, skip to step 5.
2. Check voltage on the isolator coil positive.
   A) If not battery volts then go to KEY SWITCH. If this has been done, check the wiring to the directional switch. END.
3. Check voltage **across** the isolator coil.
   A) If BATTERY volts, the isolator coil is bad. END
   B) If not BATTERY volts check negative wiring, circuit breaker. END
4. Check voltage at the controller B+ terminal.
   A) If not equal to BATTERY volts, the isolator contacts are bad. END

FORWARD ONLY

1. Place the forward-reverse switch in neutral.
2. Depress the accelerator pedal.
3. Place the forward-reverse switch in REVERSE.
   A) If the reverse contactor clicks, go to REVERSE CONTACTS
4. If the reverse contactor does not click, check the voltage at the REVERSE contactor coil positive(+).
   A) If not battery volts, check wiring, forward-reverse switch. END
5. Check the voltage **across** the reverse contactor coil.
   A) If not BATTERY volts then check the wiring to Pin 3 on the controller 7-pin connector. END.

REVERSE CONTACTS

1. Connect the test light across the forward-reverse contactor terminals 2 & 4 (Reverse Normally-open).
2. Depress the accelerator pedal fully.
   A) If the light is 'ON', then the contactor is bad. END
3. Connect the test light across contactor terminals 1 and 2 (Forward Normally-closed).
4. Depress the accelerator pedal fully.
   A) If the light is 'ON', the contactor is bad. END



Forward and reverse contactor

REVERSE ONLY

1. Place the forward-reverse switch in neutral.
2. Depress the accelerator pedal.
3. Place the forward-reverse switch in FORWARD.
   A) If the FORWARD contactor clicks, go to FORWARD CONTACTS
4. Check voltage at FORWARD contactor coil positive (+).
   A) If not battery volts, check the wiring and forward-reverse switch. END
5. Check the voltage across the FORWARD contactor coil.
   A) If not BATTERY volts, check wiring to Pin 3 on the controller 7-pin connector. END

FORWARD CONTACTS

1. Depress the accelerator pedal fully.
2. Connect the test light across the forward-reverse contactor terminals 3 and 4 (Forward Normally-open).
   A) If light is 'ON', the contactor is bad. END
3. Connect test light across the forward-reverse contactor terminals 1 and 3.
   A) If light is 'ON', the contactor is bad. END

If you reached this point and did not locate the problem, you either have an unanticipated failure or you may not have performed the tests correctly.

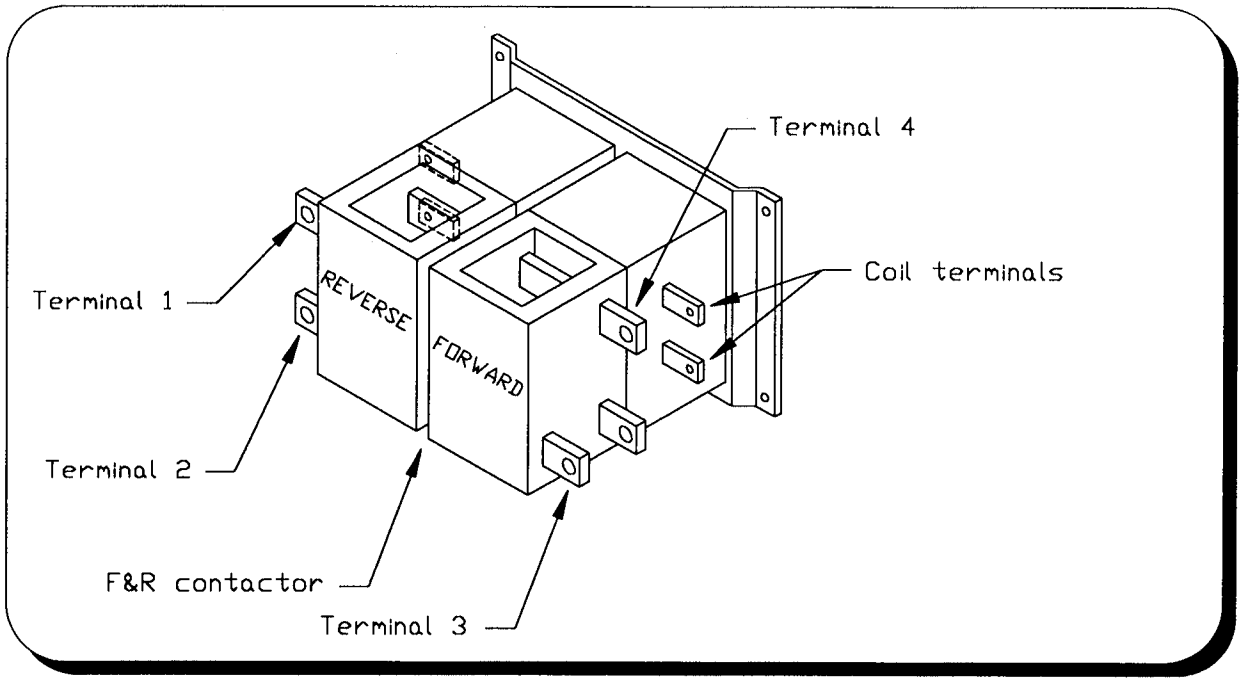
PMC

If the truck mis-operates in one direction only then go to CONTACTORS 2.

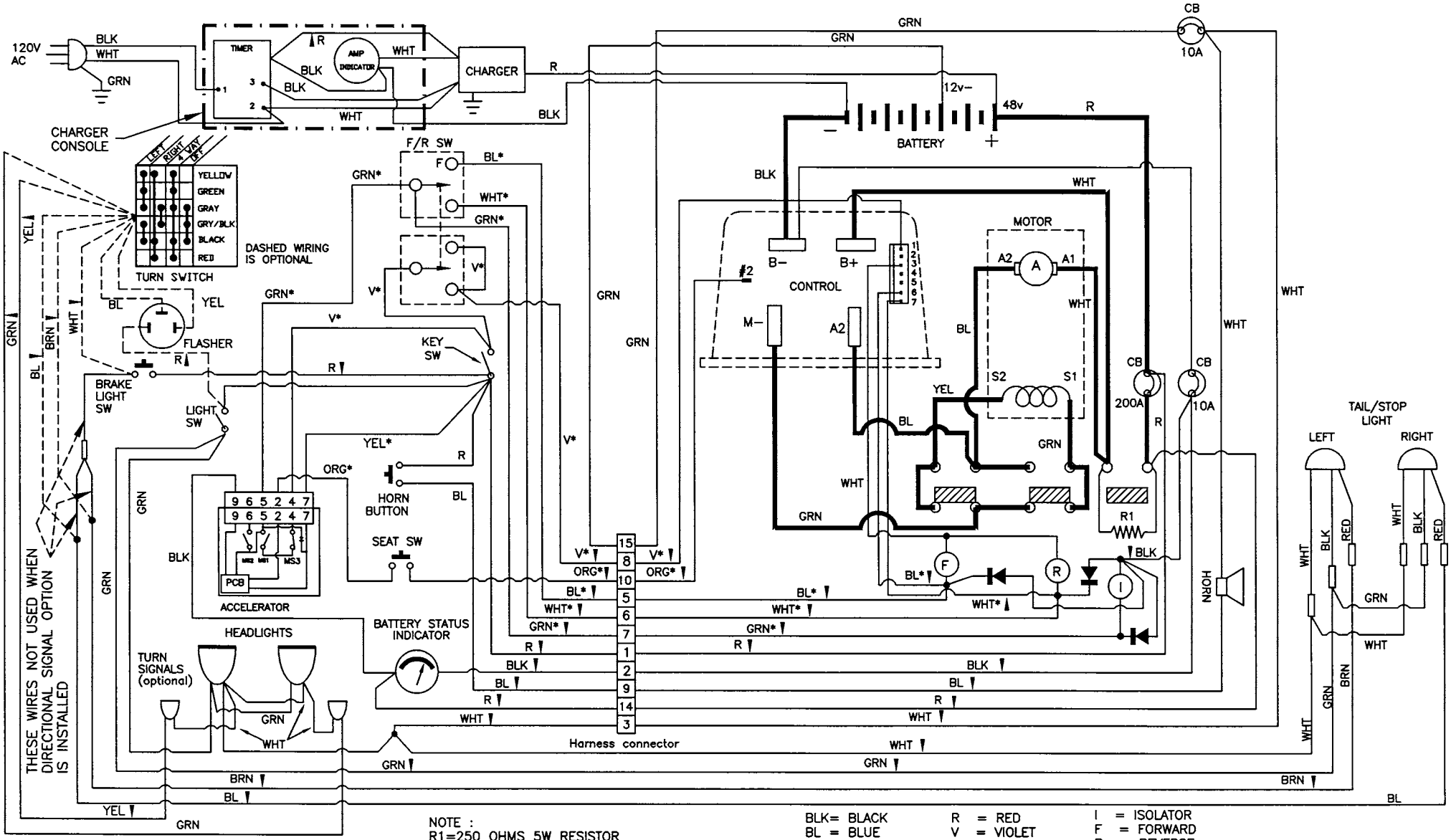
1. Disconnect batteries
2. Remove the wires from the PMC A2 terminal.
3. Test continuity between the PMC A2 and B+ terminals in both polarities.
   - **A)** These two terminals should test as a diode.
   - **B)** If it test shorted the PMC is bad.>>END.

CONTACTORS 2

1. Disconnect the motor S1 and S2 wires and the PMC M- wires.
2. Tape off wires to prevent shorts.
3. Reconnect batteries.
4. Place directional switch in neutral.
5. Test continuity from terminal 4 to terminal 2.
   - **A)** If it is shorted then the contactor is bad. >>END
6. Test continuity from terminal 4 to terminal 1.
   - **A)** If it is shorted then the contactor is bad. >>END
7. Directional switch in FORWARD, depress accelerator pedal.
8. Test continuity from terminal 1 to terminal 3.
   - **A)** If it is shorted then the contactor is bad. >>END
9. Directional switch in REVERSE, depress accelerator pedal.
10. Test continuity from test terminal 1 to terminal 2.
    - **A)** If it is shorted then the contactor is bad. >>END
11. Reconnect motor and PMC wires.
12. Reconnect battery.



Forward and reverse contactor



NOTE :
R1=250 OHMS 5W RESISTOR
WIRES WITH "*" ARE BLACK STRIPED WIRES

BLK= BLACK
BL = BLUE
BRN= BROWN
GRN= GREEN
R = RED
V = VIOLET
WHT= WHITE
YEL= YELLOW
ORG= ORANGE

I = ISOLATOR
F = FORWARD
R = REVERSE
CB = CIRCUIT BREAKER

LESTER CHARGER TROUBLESHOOTING

MODEL 11985 TYPE 48LC25-8ET

⚠WARNING

HIGH VOLTAGE and HIGH DC CURRANT. If you do not understand any part of these tests, refer testing to a qualified electrical mechanic.

⚠WARNING

Prevent the truck from moving. Before performing maintenance on any vehicle, disconnect the batteries, set the parking brake and block the wheels

1) Disconnect the charger from the AC and DC source.
2) If this is a built in charger then remove the charger from the truck.
3) Remove the charger cover.

⚠WARNING

High voltage may be stored in the capacitor. Discharge capacitor with insulated screwdriver before proceeding. Do not touch screwdriver blade while discharging capacitor.

4) Inspect all internal wiring and repair as necessary.
5) Inspect fuse link and replace if bad.
6) Test diodes.
   A) Use a VOM set at R x 100 ohms scale.
   B) Remove one lead from one diode (Fig. 1)
   C) Connect test leads across one diode. Meter should either deflect to right side of scale or not at all.
   D) Reverse polarity on diode test leads. You should get the opposite reading of previous test.
   E) If you get the same reading in both polarities then the diode is bad.
   F) Repeat the test on the other diode.

➢ ***NOTE: It is recommended to replace the diodes as a set.***

   G) Reconnect the lead removed in step 6B to the diode.

7) Test Capacitor.
   A) Use an analog VOM set at its highest ohms scale. Preferably R x 10000.

⚠WARNING

High voltage may be stored in the capacitor.

B) Discharge capacitor with insulated screwdriver. Do not touch screwdriver blade while discharging capacitor.
C) Disconnect one lead from the capacitor.
D) Connect the test leads across the capacitor.
The needle should deflect to low ohms reading and then slowly return to infinity (left side of scale). If the needle stays on low ohms reading or does not deflect at all then the capacitor is bad.

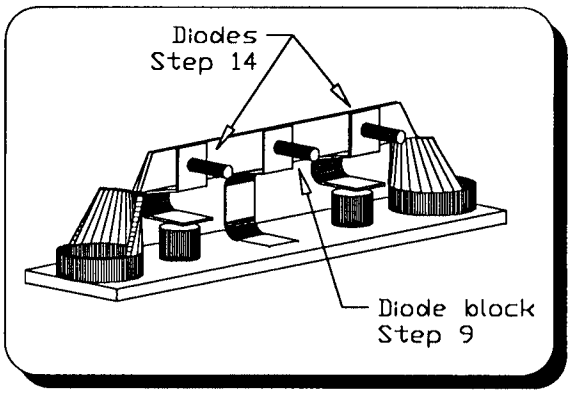
➢ ***NOTE: Check capacitor in both polarities***

E) Reconnect the lead removed in step 7C.

8) Reconnect the DC source only.

9) Measure DC voltage from diode block (+) to fuse assembly (-) (Fig 1).
A) If you do not get battery voltage then the wiring to the battery is bad.
B) Reconnect the lead removed in step 7C to the capacitor.

10) If equipped with an ammeter then check the continuity across the meter.
A) If you do not get 0 ohms then the meter is bad.



⚠WARNING

Electrical shock hazard! After next step there will be un-insulated high voltage in charger.

11) Reconnect the AC source.

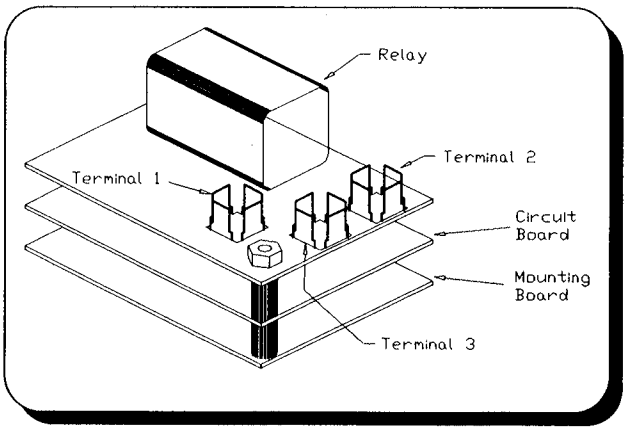
⚠WARNING

The charger must be electrically grounded!

⚠WARNING

Repairs to house wiring must be done by a qualified electrician.

12) Measure AC input voltage at 1/4" spade connectors on timer (Fig. 3, Terminals 1 and 2).
A) If not at approximate charger AC voltage listed on spec plate, then AC input is bad.



Possible problems;

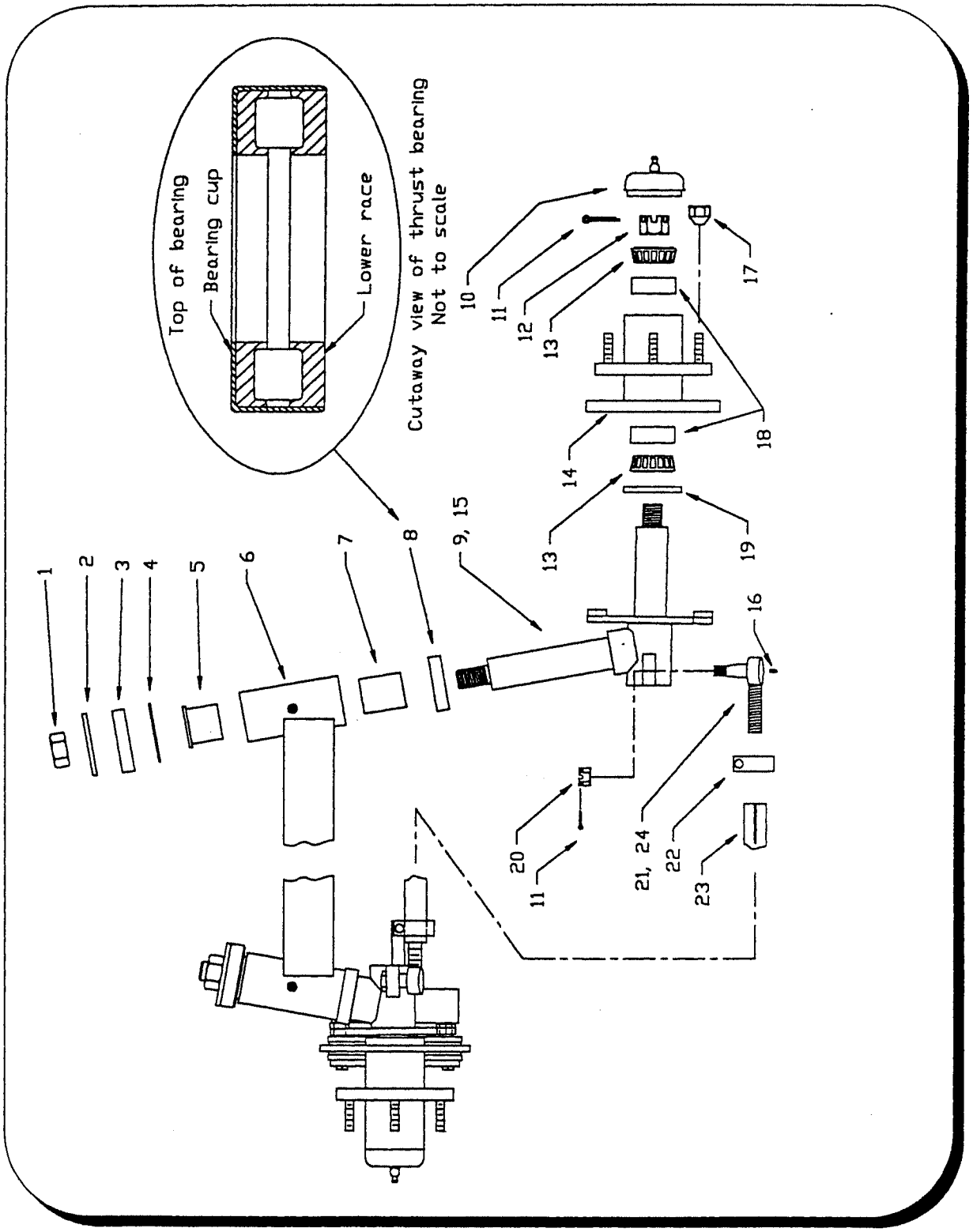
B) Wiring to AC cord,
C) AC cord or plug,
D) House wiring or circuit breaker. To test, plug a known to be good light into the wall receptacle.

13) Measure AC output voltage at timer (Fig. 2 terminals 2 and 3).
A) If it is not the same as the input voltage then the timer is bad.

14) Measure AC voltage at diodes.
A) If not 103-125 vac then the transformer is bad.

ILLUSTRATED PARTS LIST

FRONT AXLE


Top of bearing
Bearing cup
Lower race
Cutaway view of thrust bearing
Not to scale
1
2
3
4
5
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7
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9, 15
10
11
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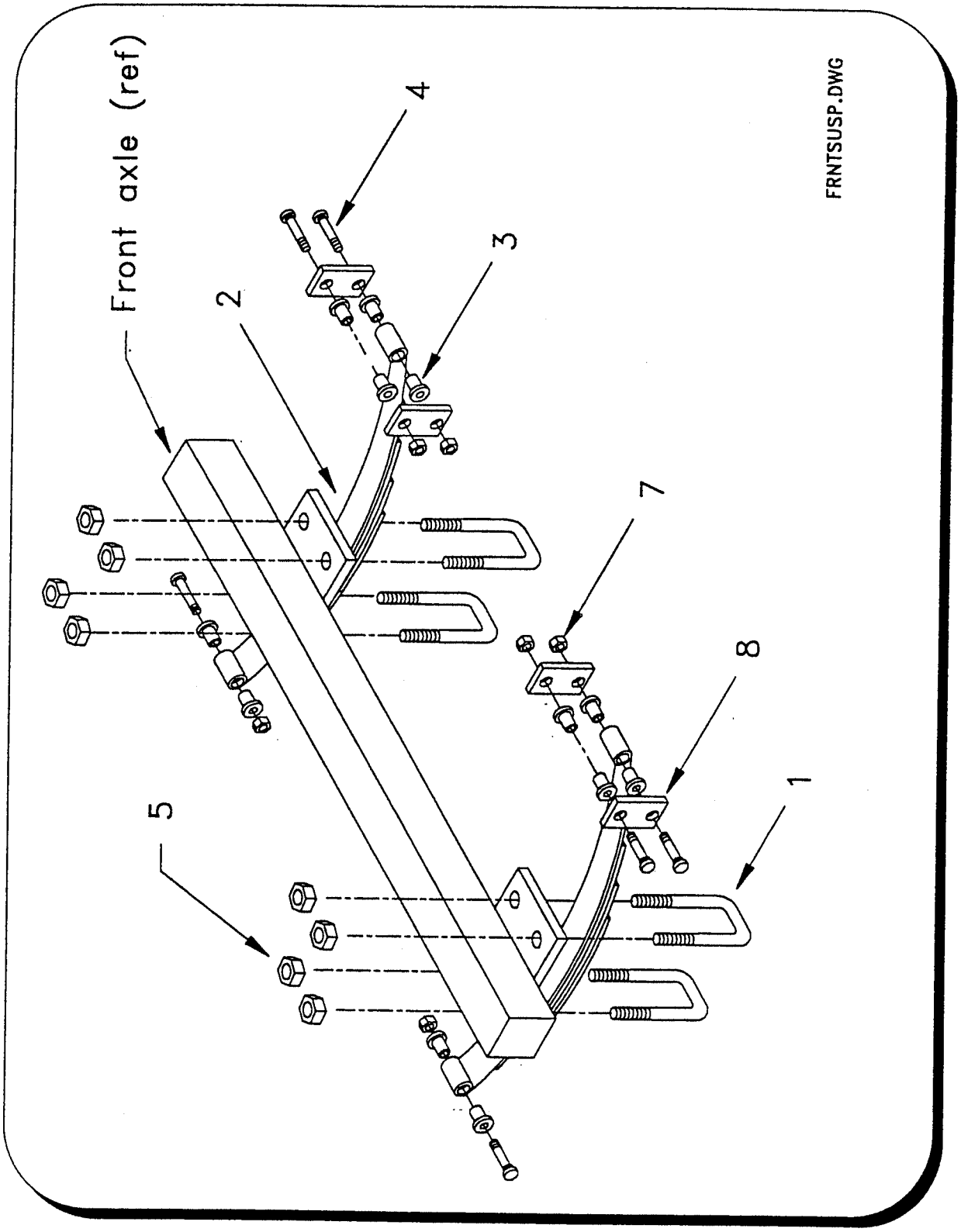
21, 24
22
23

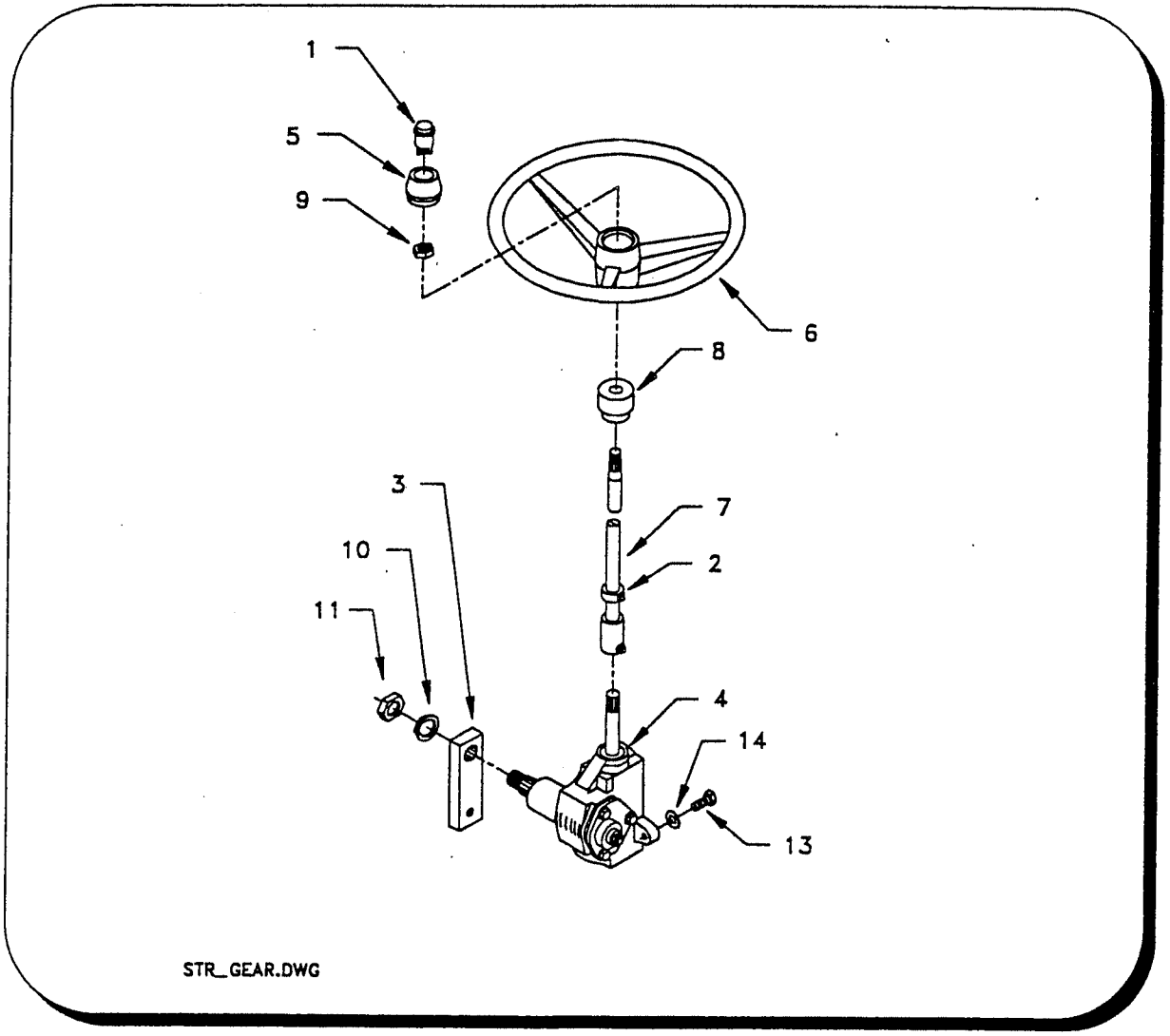
FRONT AXLE			
Item #	Part #	Description	QTY
1	88-239-86	King pin nut	2
2	88-228-60	Flat washer	2
3	98-603-07	Rubber washer	2
4	97-180-21	Thrust washer	2
5	32-240-44	Upper king pin bushing	2
6	15-210-70	Axle beam	1
7	32-240-43	Lower king pin bushing	2
8	80-309-12	Thrust bearing	2
9	21-020-18	Right steering yoke	1
10	92-104-00	Wheel bearing cap	2
11	88-527-11	Cotter pin	2
12	88-239-85	Wheel bearing nut	2
13	80-017-00	Inner/Outer wheel bearing	4
14	12-158-10	Front hub (w/rotor, inner bearing, races and seal),Note: rotor N/A separately	2
15	21-020-17	Left steering yoke	1
16	87-074-00	Grease fitting	2
17	97-236-00	Wheel nut	10
18	80-103-00	Inner/Outer race	4
19	45-338-00	Grease seal	2
20	88-159-85	Ball joint nut	2
21	86-501-98	Ball joint (left thread)	1
22	86-510-00	Ball joint clamp w/nut and bolt	2
23	18-041-07	Tie rod sleeve	1
24	86-501-99	Ball joint (right thread)	1

FRONT SUSPENSION

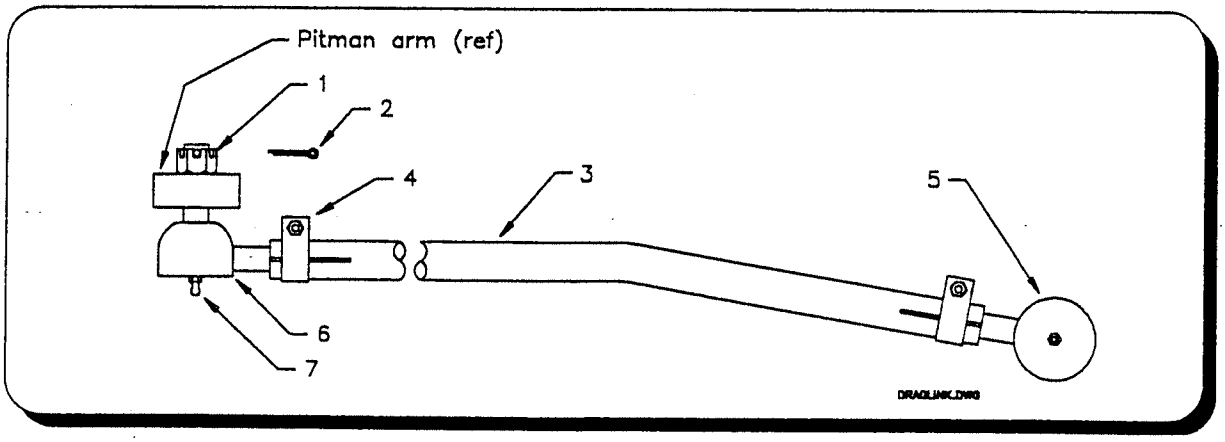


FRONT SUSPENSION			
Item #	Part #	Description	QTY
1	96-120-00	U-Bolt	4
2	85-498-00	Leaf Spring	2
3	32-214-50	Spring bushing	12
4	96-240-00	Shackle bolt	6
5	88-149-81	1/2 NC lock nut	6
7	88-149-81	1/2 NC lock nut	6
8	16-872-00	Spring shackle	4
Not shown	13-746-14	Tire/wheel assy, 20.5 x 8 x 10	2
	10-264-00	Tire	2
	12-025-00	Wheel	2
	97-236-00	Wheel nut	10

STEERING GEAR

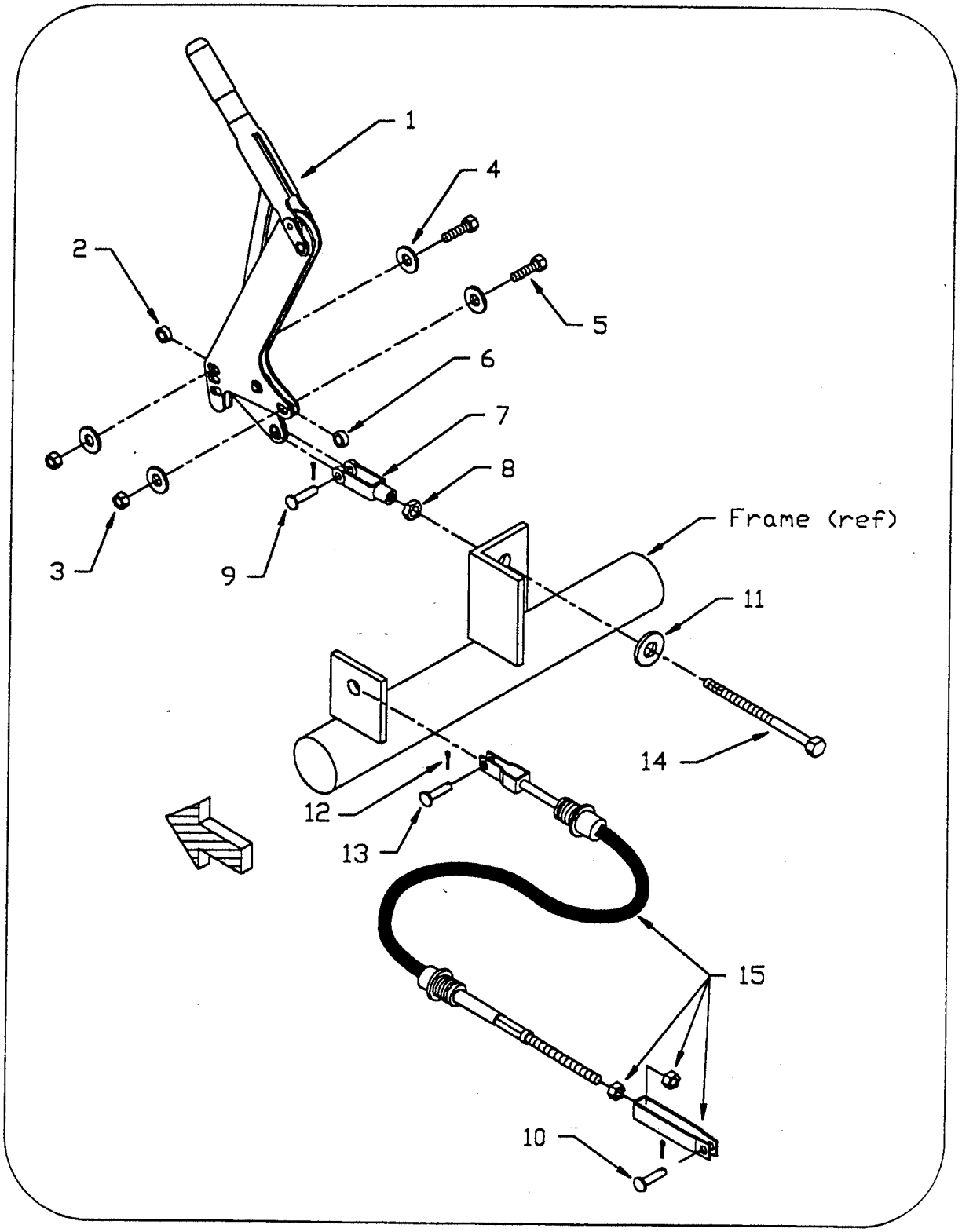


DRAG LINK



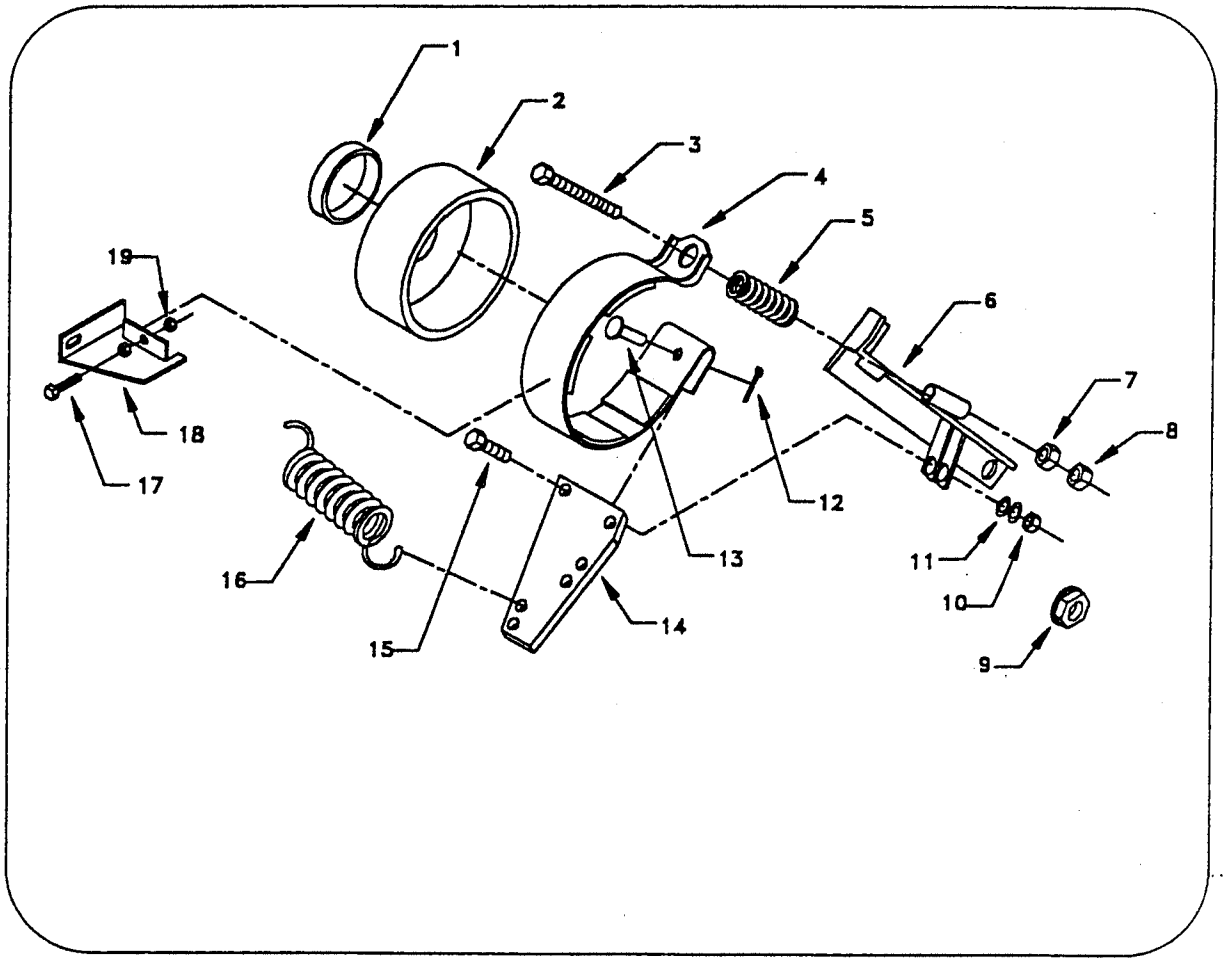
STEERING GEAR			
ITEM #	PART #	DESCRIPTION	QTY
1	71-501-55	Horn button	1
2	17-110-00	Collar	1
3	18-104-00	Pitman arm	1
4	18-308-21	Steering gear	1
5	71-501-56	Steering wheel cap	1
6	19-011-20	Steering wheel	1
7	20-031-35	Steering shaft	1
8	32-248-10	Upper steering shaft bushing	1
9	88-159-82	1/2 NF jam nut	1
10	88-268-62	7/8 split lock washer	1
11	88-279-82	7/8 NF jam nut	1
13	88-120-15	7/16 x 1 NC hex bolt	3
14	88-128-62	7/16 split lock washer	3
DRAG LINK			
1	88-159-85	Castle nut	2
2	88-527-11	Cotter pin	2
3	K1-118-31	Drag link	1
4	86-510-00	Ball joint clamp	2
5	86-501-99	Ball joint w/grease fitting (RH)	1
6	86-501-98	Ball joint w/grease fitting (LH)	1
7	87-074-00	Grease fitting	2

PARKING BRAKE LINKAGE



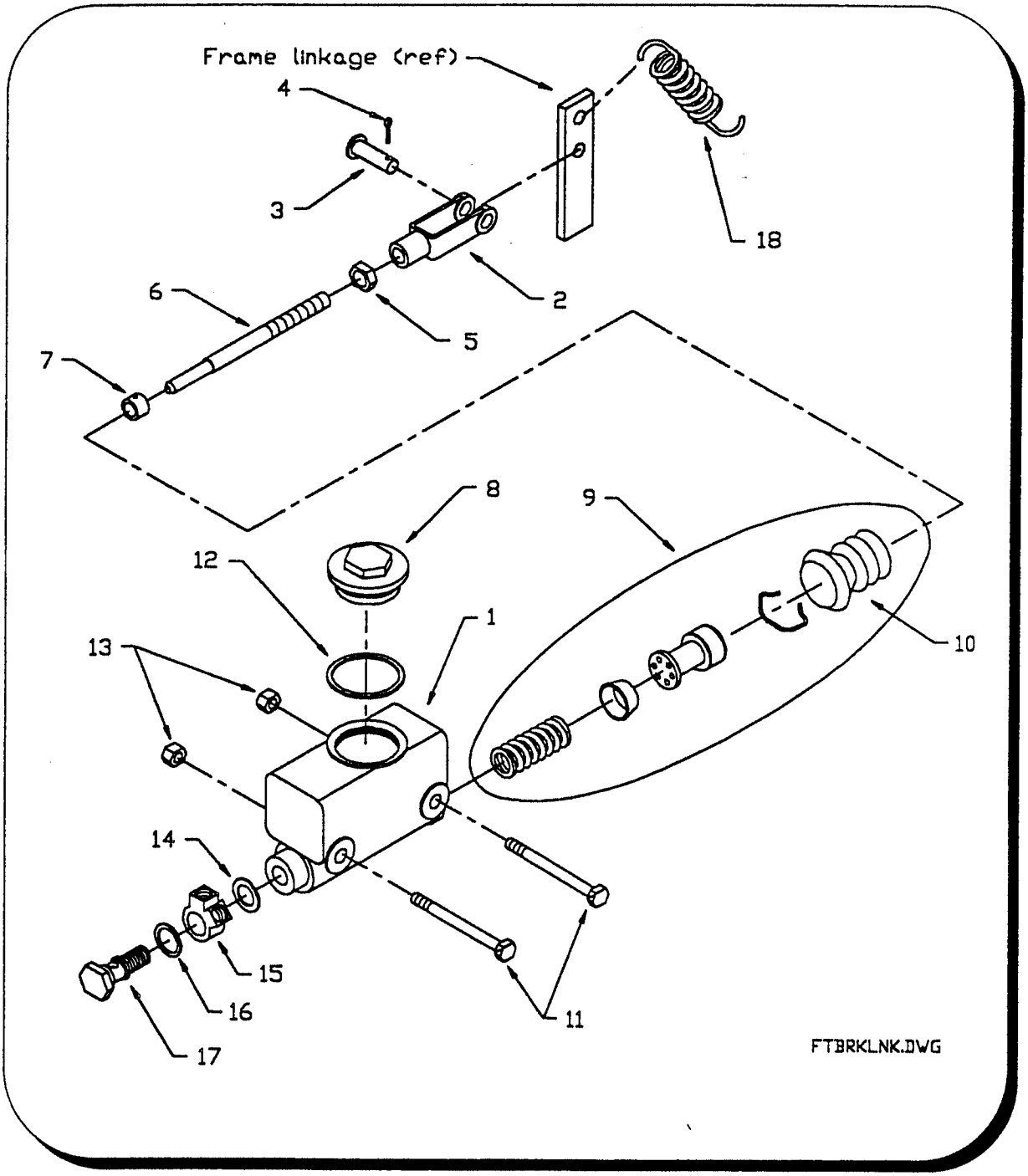
PARKING BRAKE LINKAGE			
ITEM #	PART #	DESCRIPTION	QTY
1	51-340-00	Park brake lever	1
2	-----	Spacer (part of #1)	
3	88-089-81	5/16 NC Hex lock nut	2
4	88-088-61	5/16 SAE flat washer	4
5	88-080-16	5/16 x 2 NC Hex bolt	2
6	-----	Spacer (part of #1)	
7	96-762-00	3/8 Clevis	1
8	88-119-80	3/8 NF hex nut	1
9	96-773-10	5/16 x 1 1/8 Clevis pin	1
10	96-773-00	5/16 x 1 Clevis pin	1
11	88-108-60	3/8 Cut flat washer (QTY spaced as required)	
12	88-527-11	Cotter pin	3
13	96-773-00	5/16 x 1 Clevis pin	1
14	88-111-28	3/8 NF hex bolt	1
15	K4-073-65	Park brake cable	1

PARKING BRAKE



PARKING BRAKE			
1	45-331-00	Pinion seal	1
2	45-532-00	Brake drum	1
3	96-245-10	Brake adjusting bolt	1
4	41-661-60	Brake band kit (incl. 3, 5, 7, 8, 9, 12, 13)	1
5	85-060-20	Spring	1
6	41-370-10	Mounting bracket	1
7	88-159-82	1/2 NF hex jam nut	1
8	88-159-84	1/2 NF lock nut	1
9	97-250-00	Pinion nut	1
10	88-109-81	3/8 NC lock nut	1
11	88-108-61	3/8 Flat washer	2
12	88-517-11	Cotter pin	1
13	96-771-00	Clevis pin	1
14	50-656-00	Brake arm	1
15	88-101-13	3/8 NC grade 5 hex bolt	1
16	85-270-00	Return spring	1
17	88-080-13	5/16 x 1 1/4 hex bolt	2
18	41-371-10	Alignment bracket	2
19	88-089-91	5/16 NC hex jam nut	4

FOOT BRAKE LINKAGE

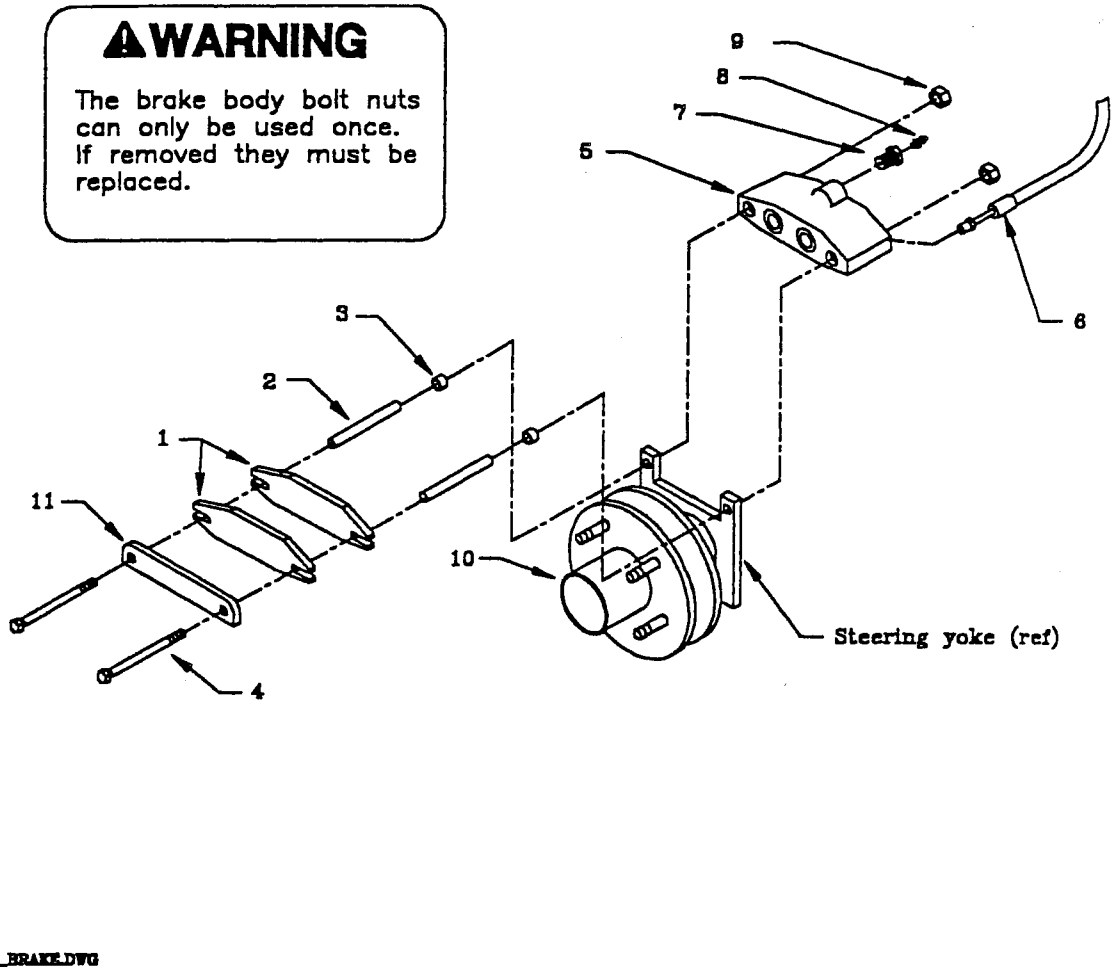


FOOT BRAKE LINKAGE			
ITEM #	PART #	DESCRIPTION	QTY
1	99-510-02	Master cylinder (incl. parts 8, 9, 12)	1
2	96-762-00	Clevis	1
3	96-772-00	Clevis pin	1
4	88-527-11	Cotter pin	1
5	88-119-80	3/8 NF nut	1
6	50-009-00	Push rod	1
7	17-104-00	Collar	1
8	99-510-52	Master cylinder cap	1
9	99-510-61	Rebuild kit	1
10	99-510-51	Rubber boot	1
11	88-101-20	3/8 NC Hex bolt	2
12	99-510-53	Cap gasket	1
13	88-109-81	Hex lock nut	2
14	99-572-00	Copper gasket	1
15	99-565-00	Y-Fitting	1
16	99-571-00	Copper gasket	1
17	99-579-00	Bolt	1
18	85-250-00	Spring	1

FRONT BRAKES

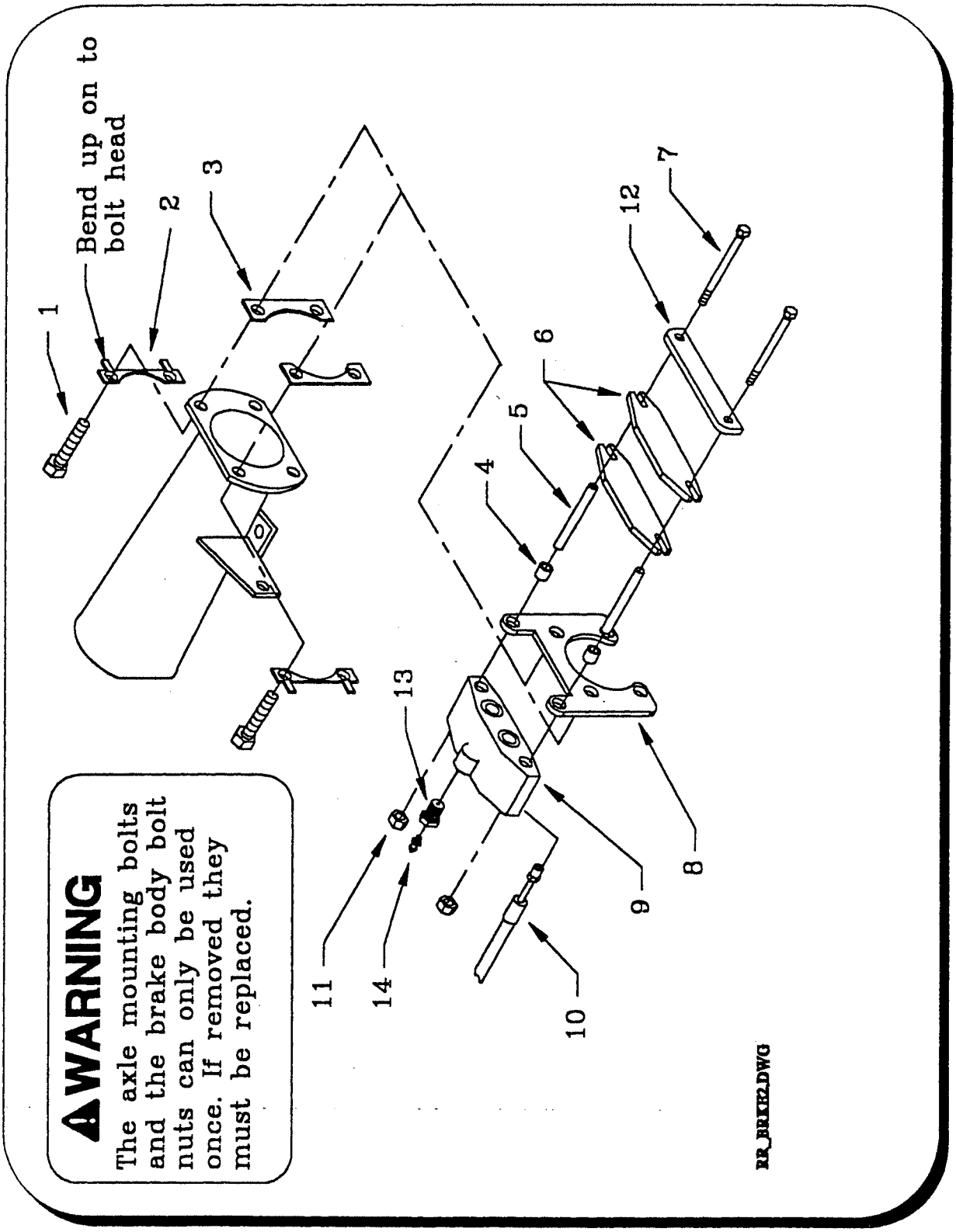
⚠WARNING

The brake body bolt nuts can only be used once. If removed they must be replaced.



FRONT BRAKES			
ITEM #	PART #	DESCRIPTION	QTY
1	41-348-70	Brake pad	4
2	41-348-52	Spacer	4
3	32-240-40	Bushing	4
4	88-067-21	Brake body bolt (grade 8)	4
5	~~41-350-70~~	Brake body (Rebuild kit 41-350-66) 41-350-30	2
6	99-580-10	Brake hose	2
7	99-588-01	Brake bleeder fitting	2
8	99-588-00	Brake bleeder valve	2
9	88-069-82	Brake body nut (grade 8) DO NOT REUSE!	4
10	12-158-10	Front hub (w/rotor, inner bearing, races and seal),Note: rotor N/A separately	2
11	41-350-51	Brake pad backing plate	2

REAR BRAKES

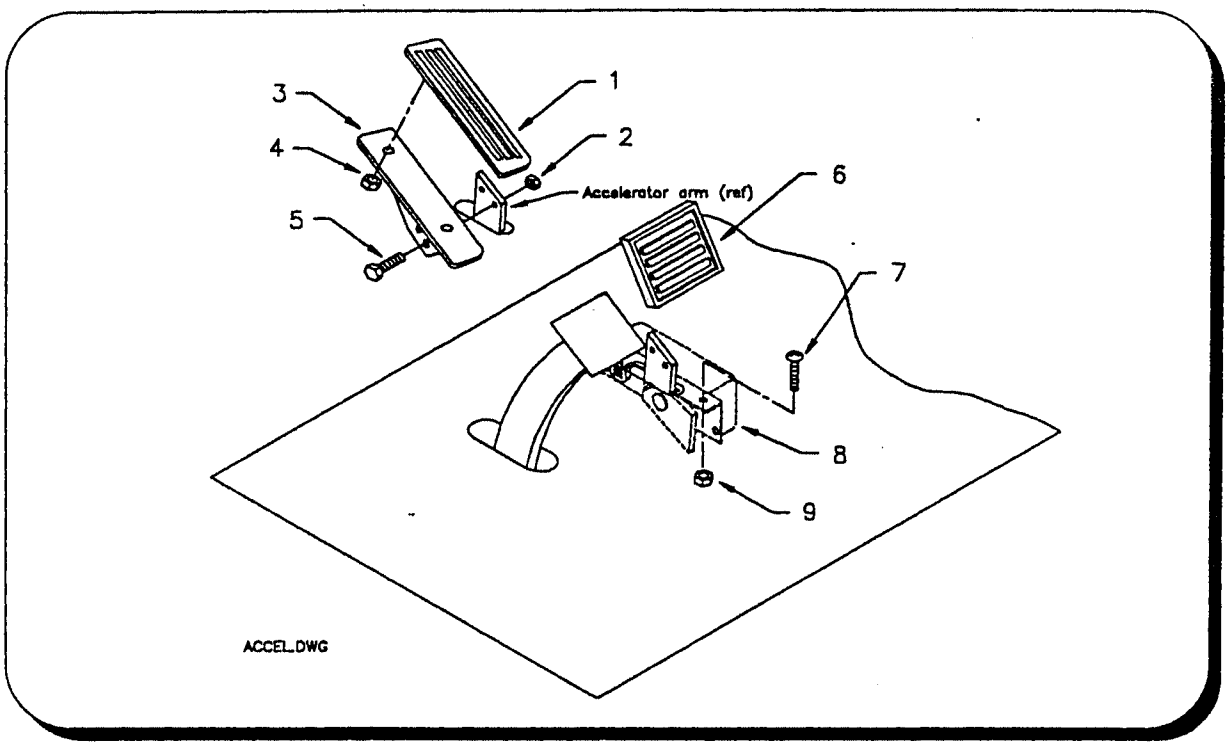


⚠WARNING

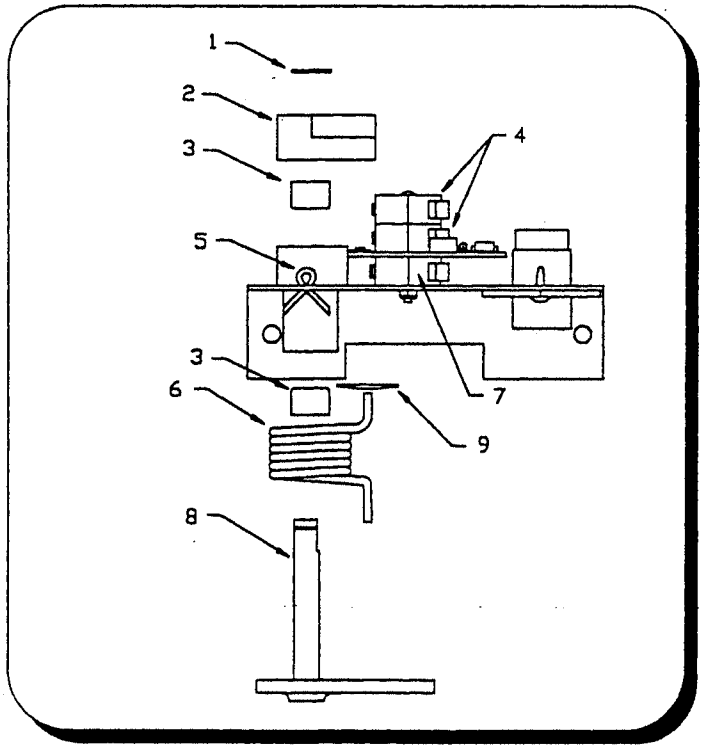
The axle mounting bolts and the brake body bolt nuts can only be used once. If removed they must be replaced.

REAR BRAKES			
ITEM #	PART #	DESCRIPTION	QTY
1	96-327-00	Axle mounting bolt	8
2	41-350-05	Locking tab	4
3	41-961-01	Spacer	4
4	32-240-40	Bushing	4
5	41-348-52	Spacer	4
6	41-348-70	Brake pad	4
7	88-067-21	Brake body bolt	4
8	41-350-08	Axle retaining bracket	2
9	41-350-40	Brake body (left)	1
9	41-350-41	Brake body (right)	1
10	99-580-20	Brake hose	2
11	88-069-82	Brake body nut (grade 8) DO NOT REUSE!	4
12	41-350-51	Brake pad backing plate	2
13	99-588-01	Bleeder fitting	2
14	99-588-00	Bleeder valve	2
NOT SHOWN	41-350-66	Brake body rebuild kit	

ACCELERATOR/BRAKE PEDAL

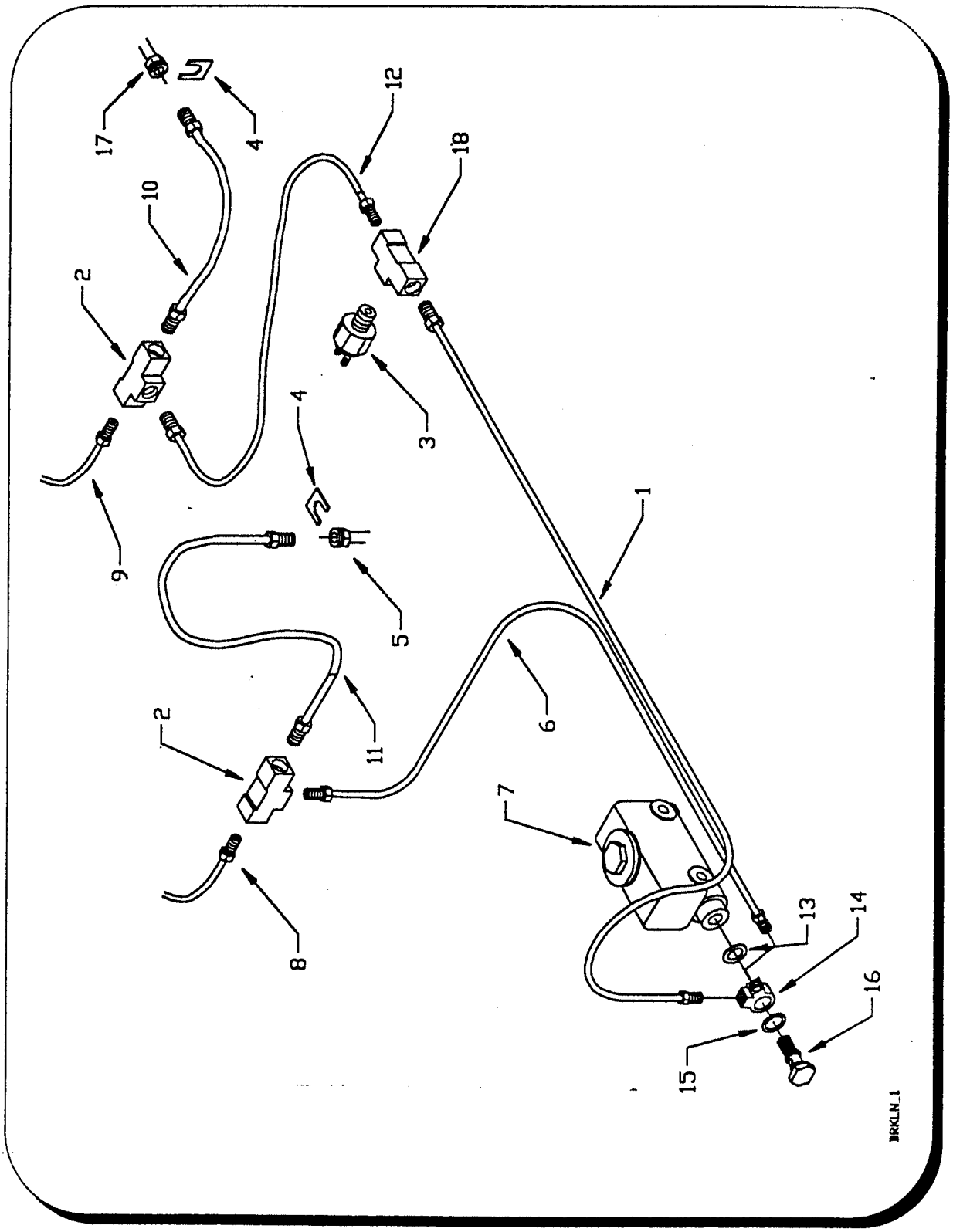


ACCELERATOR MODULE

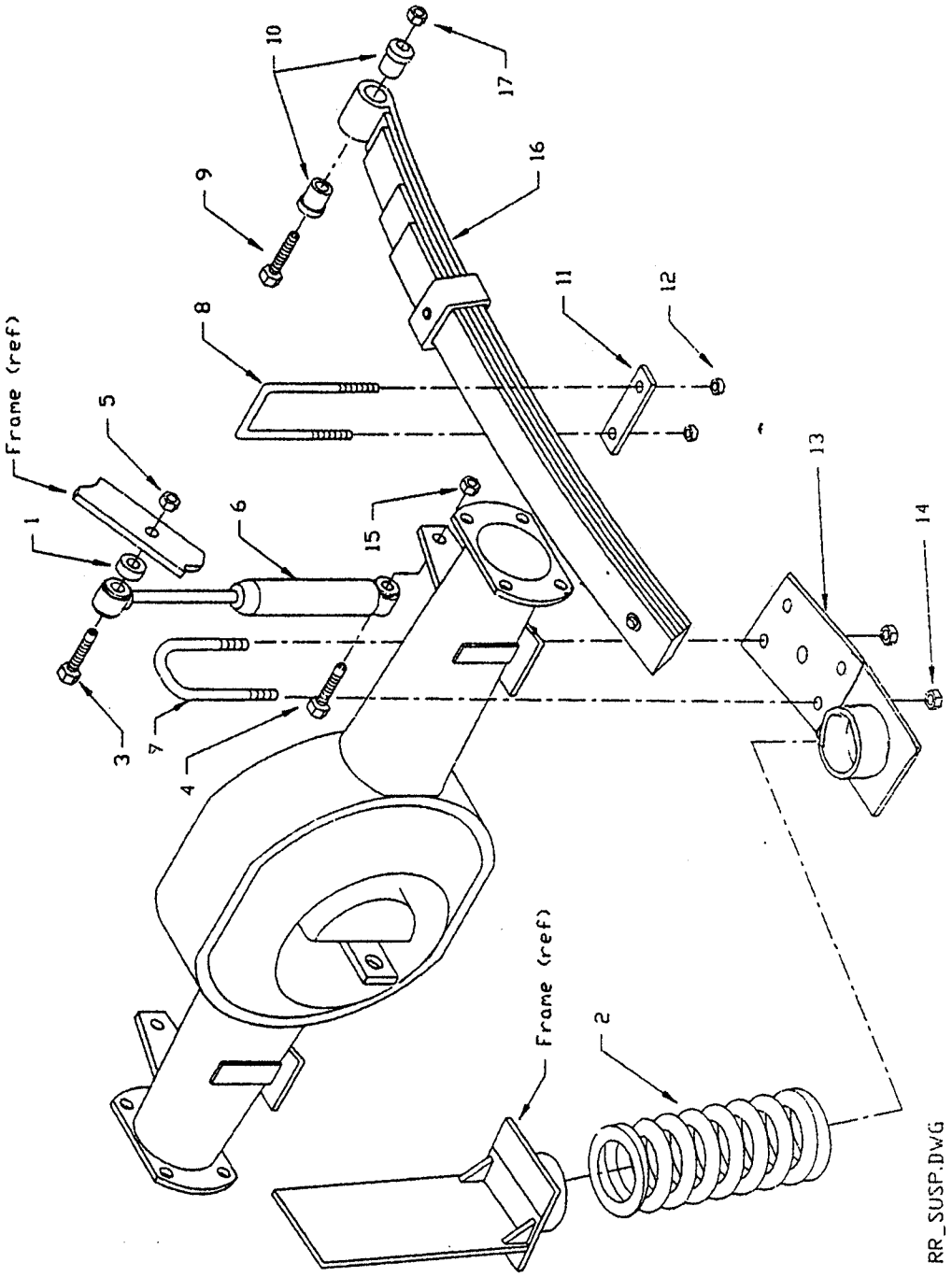


ACCELERATOR/BRAKE PEDAL			
ITEM #	PART #	DESCRIPTION	QTY
1	98-254-00	Accelerator pedal pad	1
2	88-069-81	1/4 NC lock nut	2
3	98-254-25	Accelerator mounting plate	1
4	88-069-81	1/4 NC lock nut	2
5	88-060-11	1/4 x 1" Hex bolt	2
6	98-200-00	Brake pedal pad	1
7	88-065-08	1/4 x 5/8" Truss head screw	2
8	62-031-00	Accelerator module	1
9	88-069-81	1/4 NC lock nut	2
ACCELERATOR MODULE (62-031-00)			
1	88-840-08	External circlip	1
2	62-033-05	Cam with magnet	1
3	32-215-50	Bushing	2
4	71-127-01	Switch	2
5	88-507-06	Cotter pin	1
6	85-352-38	Torsion spring	1
7	71-127-05	Switch	1
8	62-033-11	Rotor shaft	1

BRAKE LINES AND HOSES

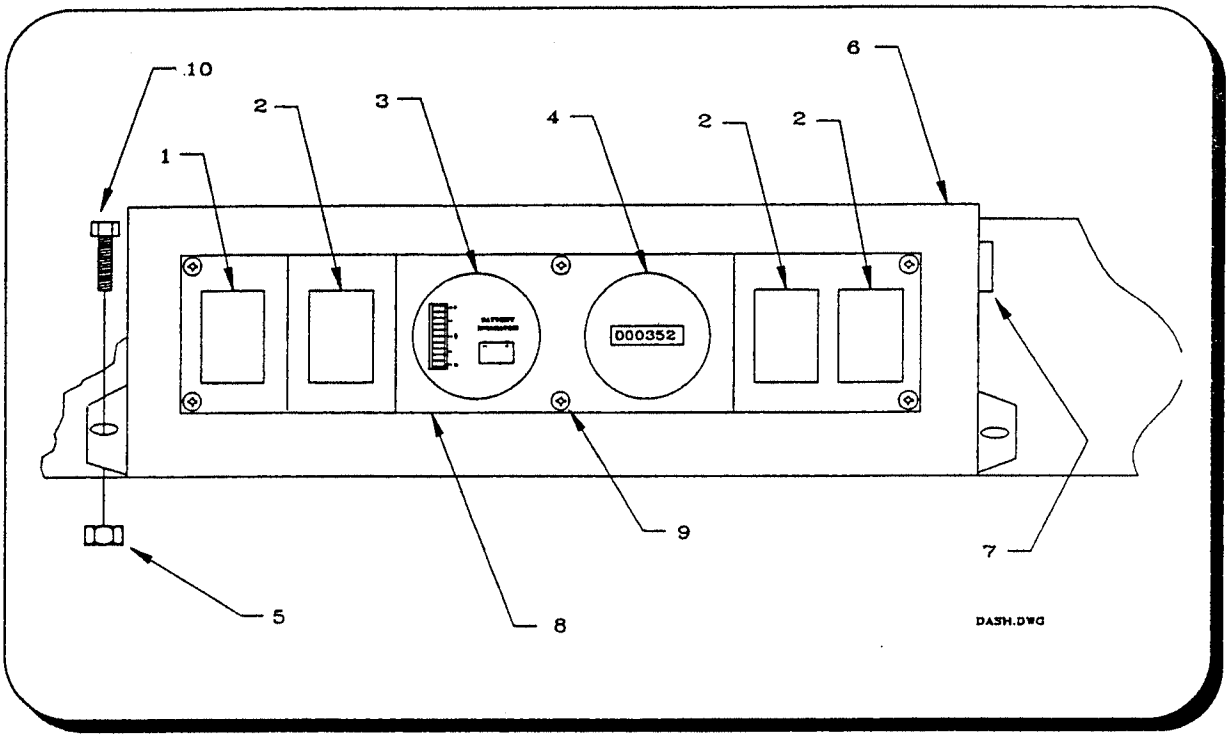


BRAKE LINES AND HOSES			
ITEM #	PART #	DESCRIPTION	QTY
1	K1-118-98	Brake line	1
2	99-564-00	T-Fitting	2
3	71-110-00	Brake light switch	1
4	99-576-00	Hose retaining clip	4
5	99-580-10	Front brake hose	2
6	99-648-53	Brake line	1
7	99-510-02	Master cylinder	1
8	99-648-52	Brake line (front right)	1
9	99-604-56	Brake line (rear right)	1
10	99-604-57	Brake line (rear left)	1
11	99-648-51	Brake line (front left)	1
12	K1-118-99	Brake line	1
13	99-572-00	Copper washer	1
14	99-565-00	Y-Fitting	1
15	99-571-00	Copper washer	1
16	99-579-00	Master cylinder fitting	1
17	99-580-20	Rear brake hose	2
18	99-575-10	T-Fitting (brake light switch)	1


Frame (ref)
1
5
6
15
10
17
16
9
8
11
12
13
14
3
7
4
Frame (ref)
2
RR_SUSP.DWG

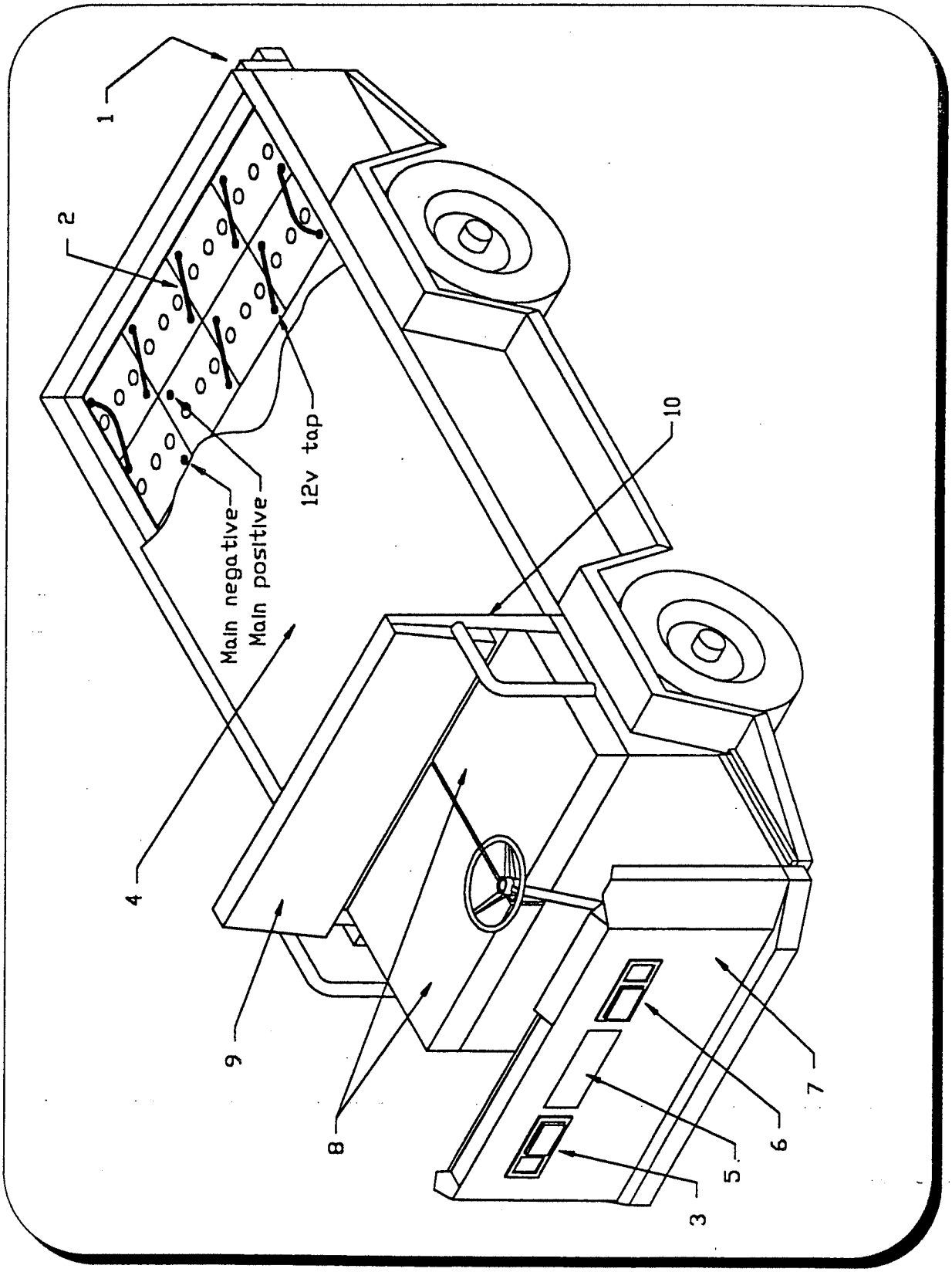
REAR SUSPENSION			
ITEM #	PART #	DESCRIPTION	QTY
1	17-106-00	Collar	4
2	85-180-10	Coil spring	2
3	88-121-19	7/16 x 2 3/4 Hex bolt, grade 5	2
4	88-121-19	7/16 x 2 3/4 Hex bolt, grade 5	2
5	88-129-81	7/16 Lock nut	2
6	86-602-00	Shock	2
7	96-110-00	7/16 NF U-Bolt	4
8	96-103-00	U-bolt	2
9	96-240-00	1/2 NC x 4 Bolt	2
10	32-214-50	Bushing	4
11	50-460-00	Shackle plate	2
12	88-149-81	1/2 NC Lock nut	4
13	16-864-04	Spring plate	2
14	88-130-86	7/16 NF FIB insert plate	8
15	88-129-81	7/16 Lock nut	2
16	85-510-17	Leaf spring	2
17	88-149-81	Lock nut	2

Instrument panel



INSTRUMENT PANEL			
ITEM #	PART #	DESCRIPTION	QTY
1	71-039-10	Switch	1
2	71-039-20	Hole plug (positions may contain optional switches)	3
3	74-009-48	Battery status indicator	1
4	74-000-00	Hour meter (optional)	1
5	88-069-81	1/4 Nut	2
6	00-610-01	Console	1
7	71-120-00	Key switch	1
8	94-304-18	Instrument panel	1
9	88-817-07	Sheet metal screw	6
10	88-065-08	1/4 x 5/8 Phillips head bolt	2

FRAME



FRAME			
ITEM #	PART #	DESCRIPTION	QTY
1	72-025-00	Tail light	2
2	75-236-00	Battery jumper	7
3	94-050-11	Right headlight	1
4	90-444-00	Deckboard (standard)	1
5	94-201-10	*TAYLOR-DUNN* name plate	1
NOT SHOWN	88-817-07	Name plate screw	6
	94-201-11	Name plate fastener (plastic)	2
6	94-050-10	Left headlight	1
7	00-248-32	Front cowl weldment (not painted)	1
8	K6-006-95	Driver/Passenger seat cushion	2
9	90-140-00	Seat back cushion	1
10	00-248-31	Seat back weldment	1
NOT SHOWN	88-837-09	Seat back screws	6
	90-199-10	Seat belt (1 set)	2
	50-243-10	Battery hold down rod	3
	50-250-00	Bat-lok	3
	02-210-25	Wire harness cover (behind cowl)	1
	02-248-80	Headlight guard (behind cowl)	1

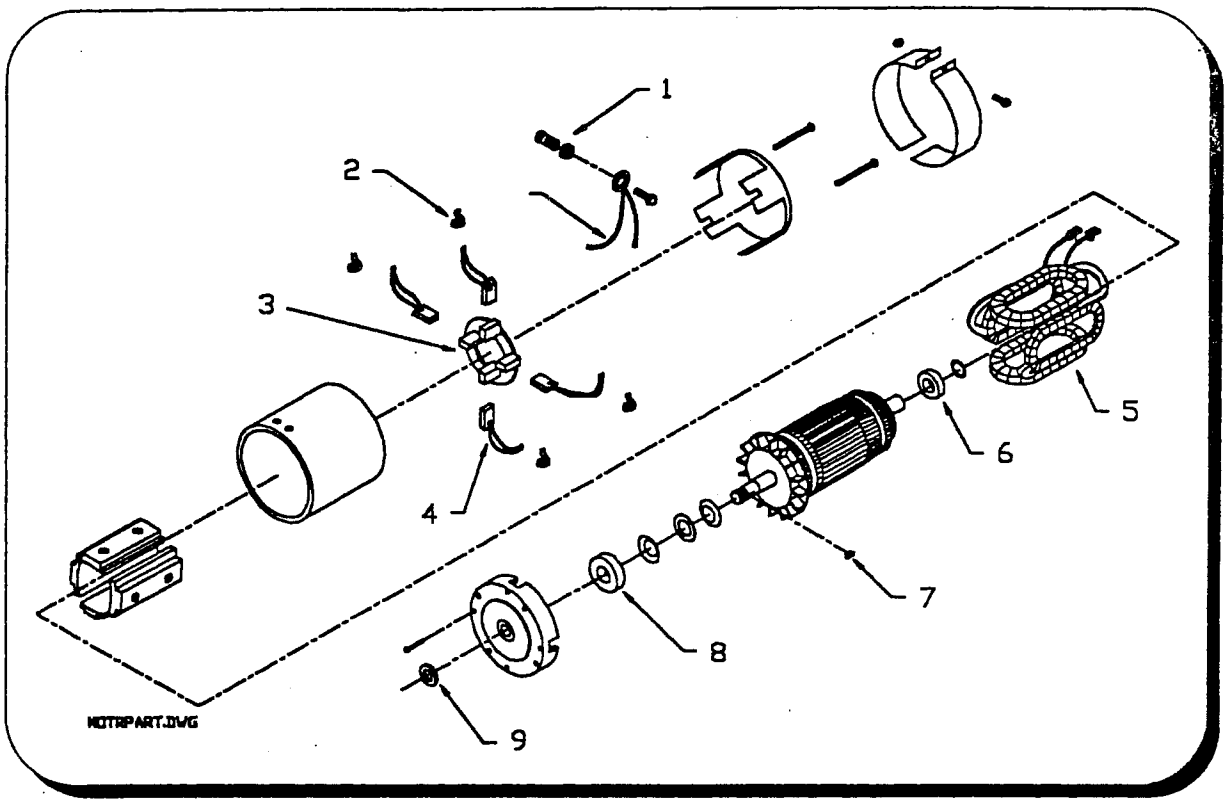
DECALS/WARNING LABELS

Not available at time of printing

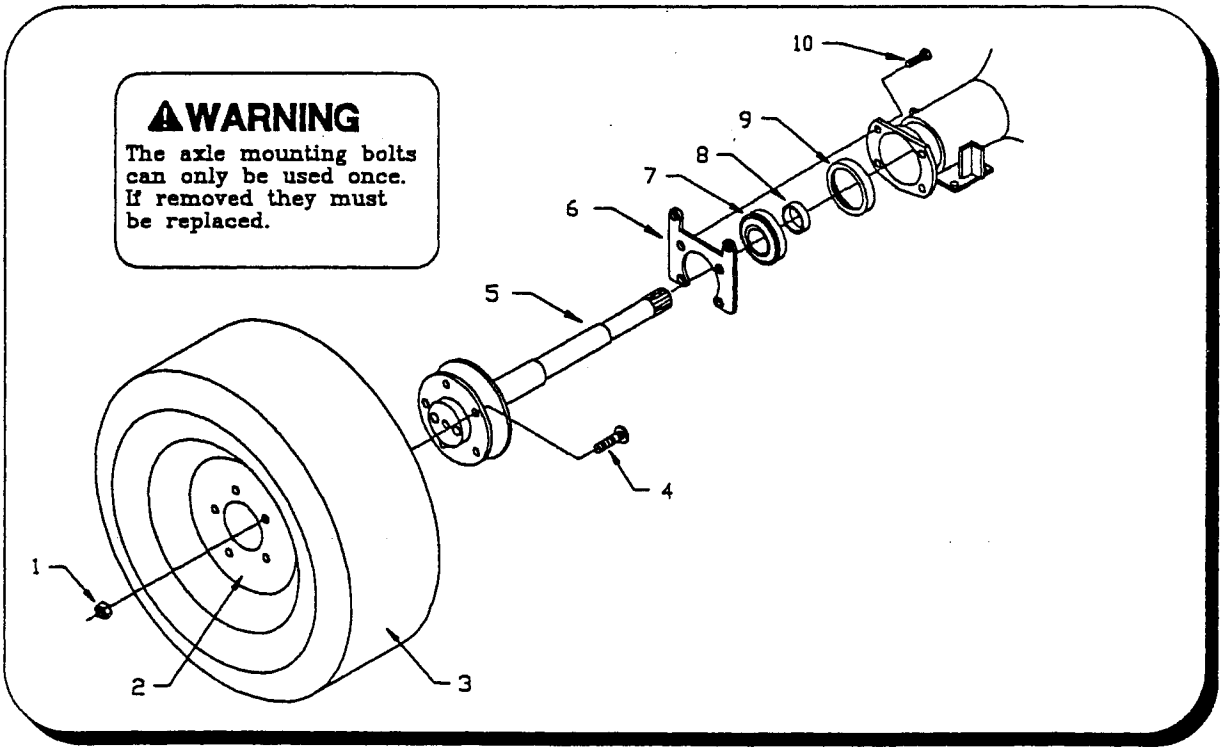
DECALS/WARNING LABELS			
ITEM #	PART #	DESCRIPTION	QTY
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			

Not available at time of printing

MOTOR



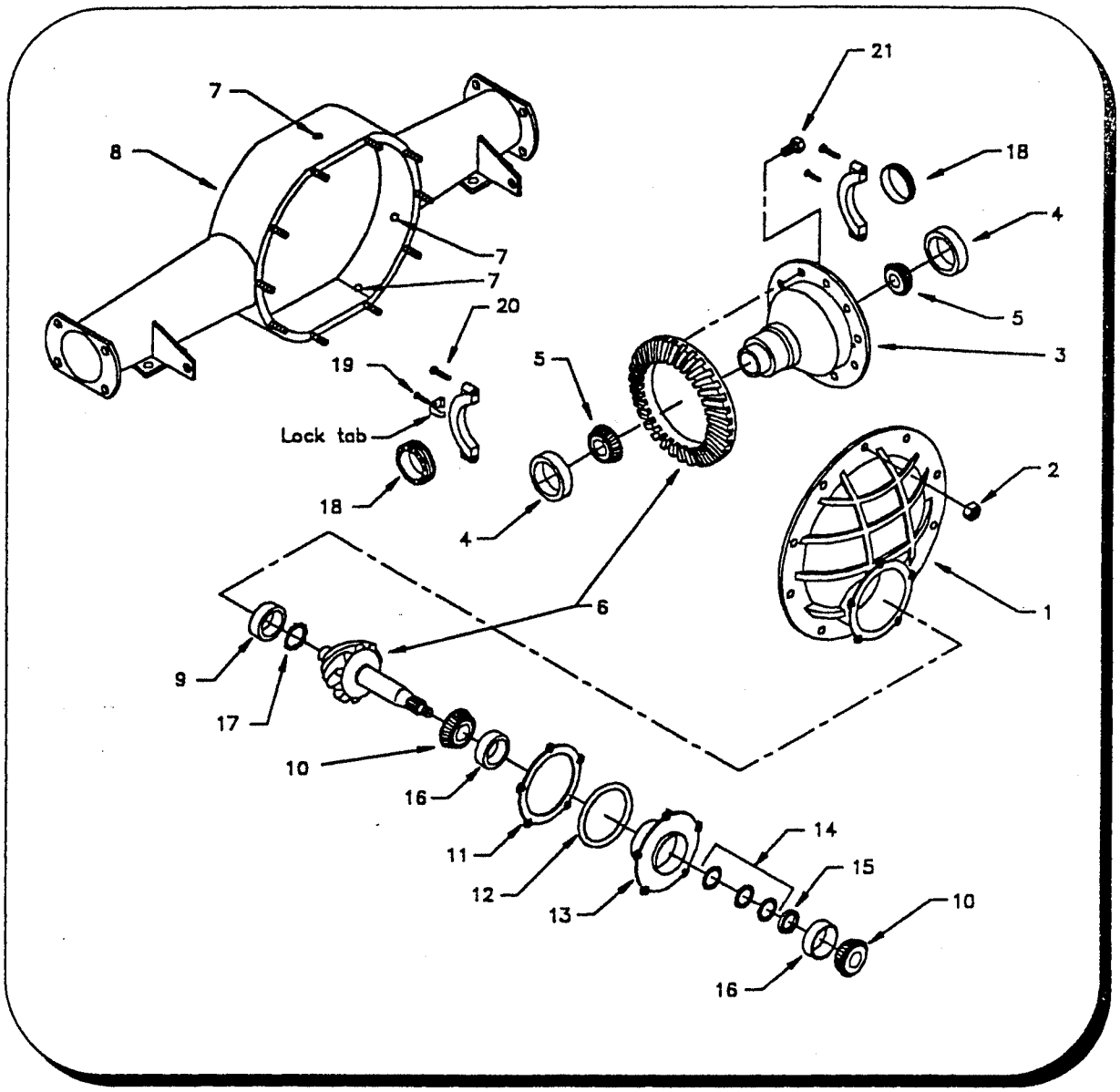
REAR AXLE



MOTOR (70-061-00)			
Item #	Part #	Description	Qty
1	70-210-64	Insulator	4
2	85-398-00	Brush spring	8
3	70-171-00	Brush holder	1
4	70-112-00	Brush (duel set)	4
5	*	Field coil	1
6	80-504-00	Rear bearing	1
7	97-100-00	Key	1
8	80-206-00	Front bearing	1
9	45-507-00	Seal	1
* not available at time of printing			

REAR AXLE			
Item #	Part #	Description	Qty
1	97-236-00	Wheel nut	10
2	12-025-00	Wheel	2
3	10-264-00	Tire	2
	13-746-14	Tire/wheel assembly (#2 and 3)	2
4	96-340-60	Replacement wheel stud kit	10
5	41-152-41	Rear axle (left/right)	2
6	41-350-08	Axle retaining bracket	2
7	80-503-00	Bearing	2
8	32-515-00	Bearing retainer	2
9	45-301-00	Seal	2
10	96-327-00	Axle mounting bolt (DO NOT REUSE!)	8

3rd MEMBER


21
7
8
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7
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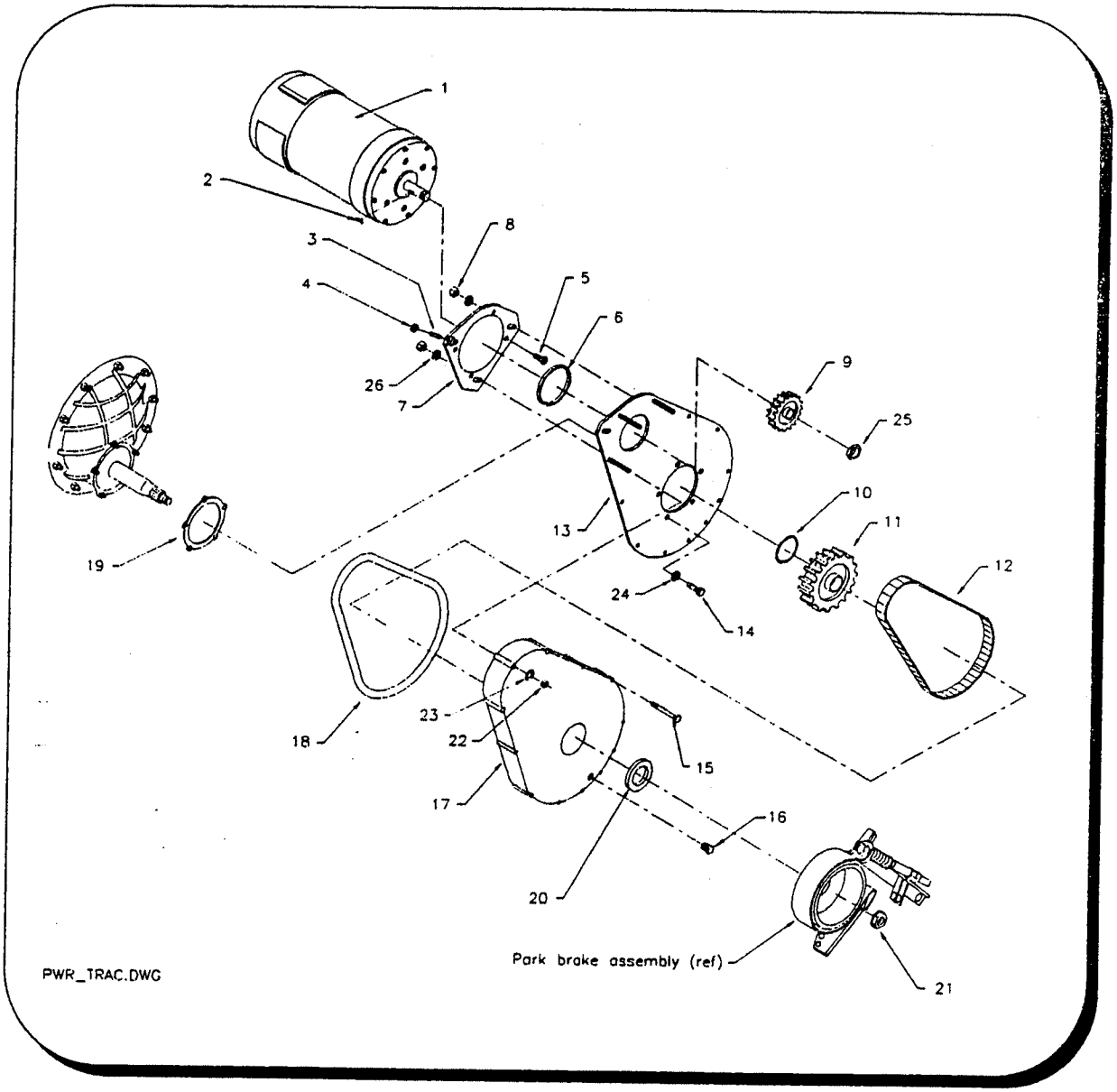
3
19
5
Lock tab
2
18
4
6
1
9
17
10
16
11
12
13
14
15
10
16

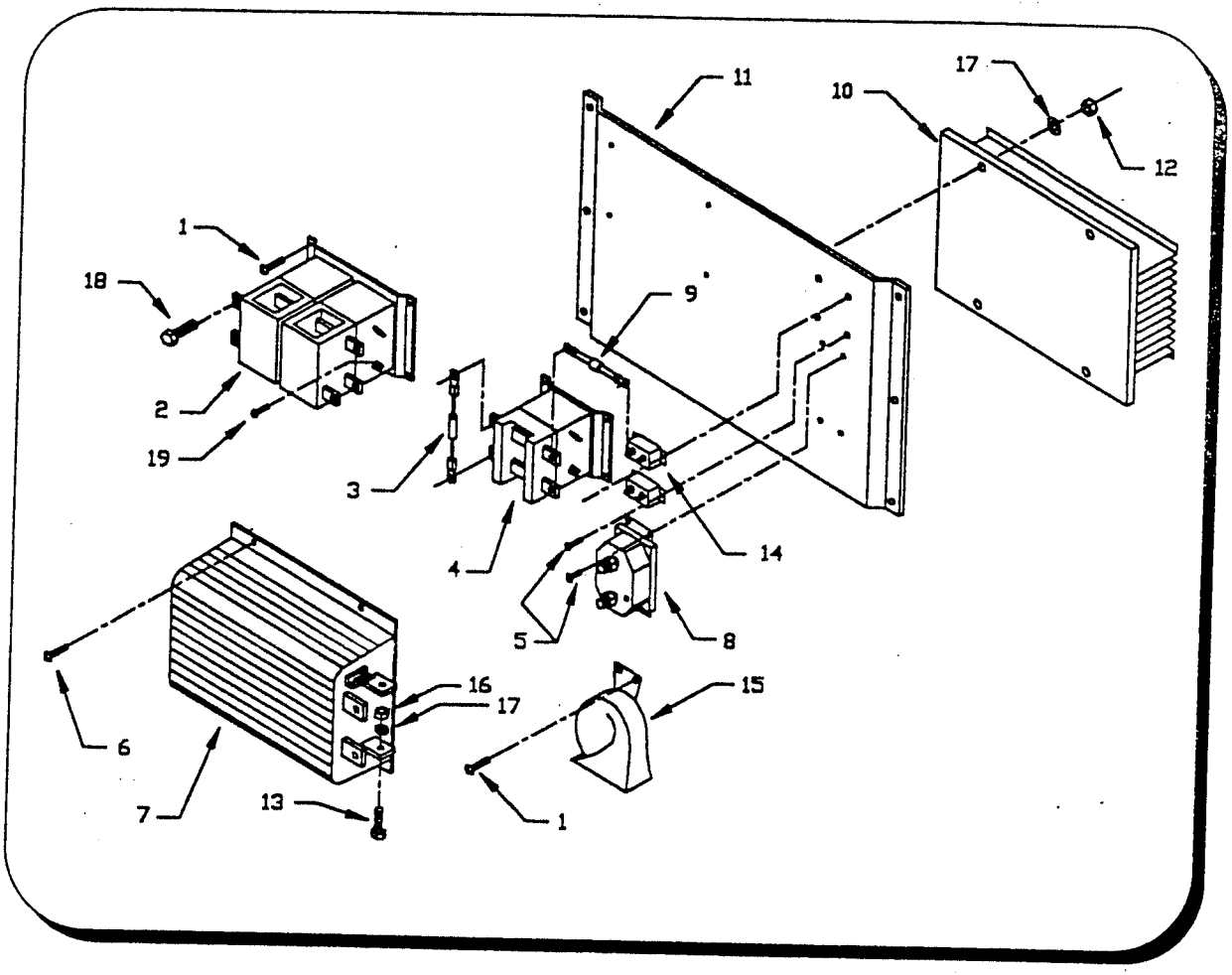
3rd MEMBER			
1	41-709-00	3rd member housing (Small carrier bearing, 1.628 ID)	1
1	41-710-00	3rd member housing (Large carrier bearing, 1.784 ID)	1
2	88-119-80	3/8 NF nut	14
3	41-712-00	Differential assembly (Small carrier bearing 1.628 ID)	1
3	41-713-00	Differential assembly (Largecarrier bearing 1.784 ID)	1
4	80-127-00	Carrior bearing race (80-511-00 bearing))	2
4	80-128-00	Carrier bearing race (80-512-00 bearing)	2
4	80-129-00	Carrier bearing race (80-513-00 bearing)	2
5	80-511-00	Carrier bearing (Small carrier bearing 1.628 ID)	2
5	80-512-00	Carrier bearing (Large carrier bearing 1.784 ID)	2
5	80-513-00	Carrier bearing (LM 102949, 1.7812 ID)	2
6	31-235-00	Ring and pinion gear set (2.75)	1
7	41-997-00	Oil plugs (1/8 pipe plug)	3
8	41-291-32	Rear end housing	1
9	80-555-00	Rear pinion bearing	1
10	80-554-00	Front pinion bearings	2
11	41-711-00	Pinion housing shim	1
12	80-702-00	O-ring	1
13	44-340-90	Pinion housing (w/races)	1
14	16-419-00	.002 Shim (as required)	
14	16-420-00	.010 Shim (as required)	
14	16-411-00	.005 Shim (as required)	
15	16-415-00	Spacer	1
16	80-125-00	Pinion bearing race	2
17	41-714-00	Pinion bearing retainer	1
18	41-707-00	Diff. bearing adj. nut (80-511-00 bearing)	2
18	41-707-50	Diff. bearing adj. nut (80-512-00 bearing)	2
18	41-708-50	Diff. bearing adj. nut (80-513-00 bearing)	2
19	88-080-04	5/16 x 3/8 NC Hex bolt	2
20	88-140-16	1/2 x 2 Hex bolt	2
21	96-243-00	7/16 x 7/8 Hex bolt (locking head)	10

POWER TRACTION



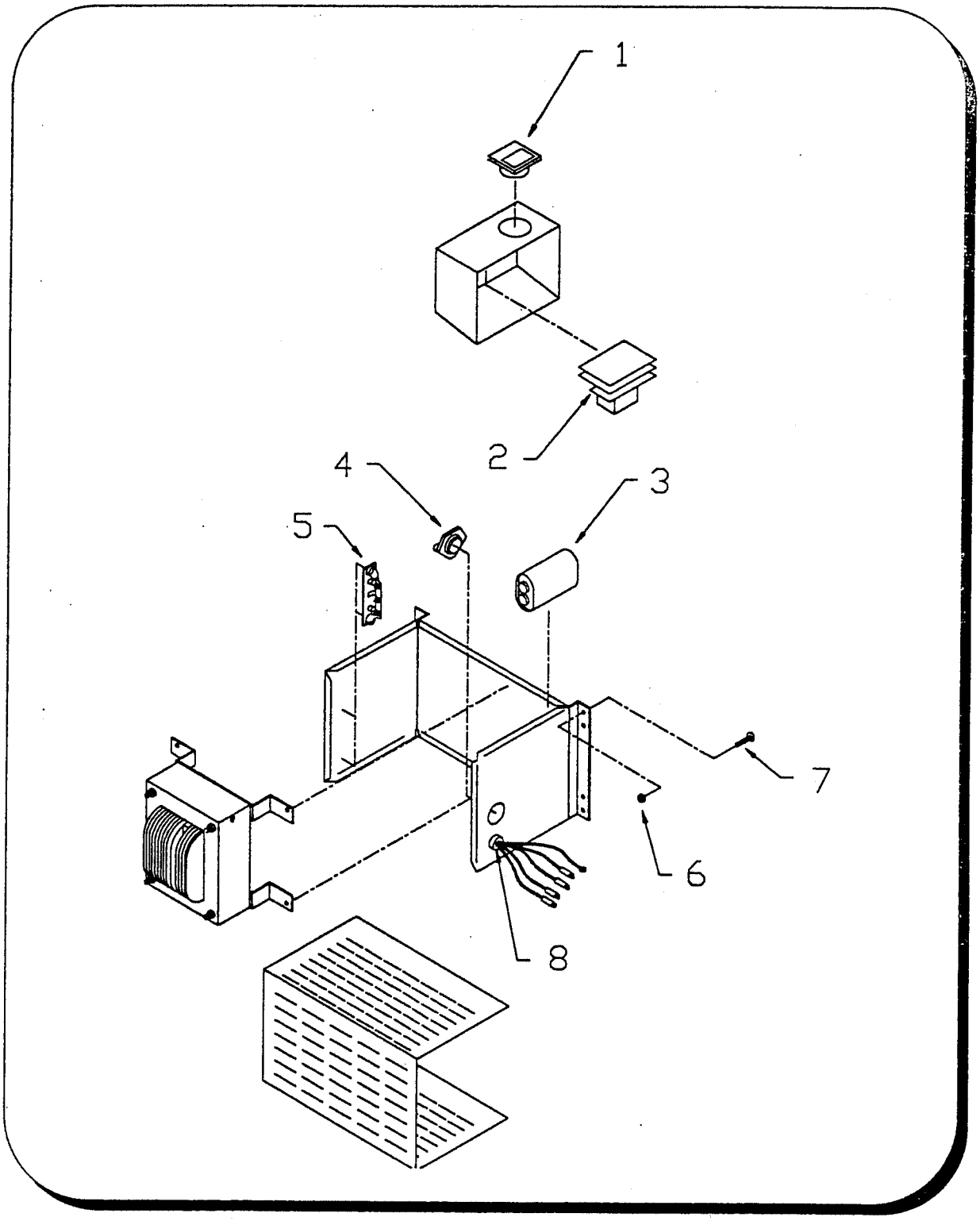
POWER TRACTION			
1	~~70-061-00~~	Motor 70-055-00	1
2	97-100-00	Woodruff key	1
3	88-087-11	Chain adjusting screw	1
4	88-069-80	5/16 NC hex nut	1
5	88-103-09	Motor mounting screw	4
6	80-703-00	O-ring	1
7	70-454-00	Motor mounting plate	1
8	88-109-87	3/8 KEPS nut (intergral lockwasher)	3
9	30-080-00	Motor sprocket	1
10	16-417-00	Spacer	1
11	30-093-00	Pinion sprocket	1
12	30-508-20	Drive chain	1
13	44-352-53	Backing plate	1
14	88-101-13	3/8 x 1 1/4 NC hex bolt	5
15	88-080-20	5/16 x 3 NC hex bolt	9
16	41-989-00	Drain and fill plugs	2
17	43-201-11	Chain cover	1
18	45-002-00	Chain case gasket	1
19	45-021-00	Backing plate gasket	1
20	45-331-00	Pinion seal	1
21	97-250-00	Pinion nut	1
22	88-089-81	5/16 NC lock nut	12
23	88-088-61	5/16 SAE flat washer	3
24	88-108-63	Internal tooth lock washer	5
25	88-239-82	Motor sprocket nut	1
26	88-108-61	3/8 SAE flat washer	3

CONTROL PANEL



CONTROL PANEL (62-016-15)			
ITEM#	PART #	DESCRIPTION	QTY
1	88-838-06	Screw	14
2	71-306-70	Forward and reverse contactor	1
3	78-302-50	250 ohm 5W resistor	1
4	71-306-72	ISO contactor	1
5	88-818-06	Screw	4
6	88-065-13	1/4 x 1-1/4 Truss head bolt	4
7	62-209-70	PMC speed control	1
8	79-844-20	200A circuit breaker	1
9	75-224-15	Diode	1
10	62-209-71	Heat sink	1
11	01-534-82	Mounting panel	1
12	88-069-81	1/4 NC hex locknut	4
13	88-080-11	5/16 x 1 NC hex bolt	4
14	79-840-00	10A circuit breaker	2
15	73-004-20	Horn	1
16	88-089-80	5/16 NC hex nut	4
17	88-068-61	1/4 SAE flat washer	4
18	89-080-25	8 x 1.25 Metric hex head bolt	8
19	89-040-12	4 x .7 Metric phillips head screw	6
NOT SHOWN	K1-072-77	Additional harness	1
	K1-114-06	Additional harness	1
	K1-114-66	Control panel power harness	1
	K1-183-02	Diode harness	1
	75-148-25	Control panel control harness	1
	01-534-84	Cover, Control panel	1

CHARGER



CHARGER			
ITEM#	PART #	DESCRIPTION	QTY
	79-305-06	Complete charger	1
1	79-851-00	Ammeter	1
2	79-805-65	Timer assembly	1
3	79-902-00	Capacitor	1
4	79-831-00	Fuse	1
5	79-749-13	Diode assembly	1
6	88-069-81	1/4 NC Locknut	4
7	88-065-06	1/4 x 1/2 NC truss head screw	4
8	79-530-00	Bushing	1
NOT SHOWN	79-575-30	AC cord	1
	79-511-00	Cord holder	1
	79-530-00	AC cord bushing	1
	76-200-00	Replacement AC plug	

ELECTRICAL SYSTEM (FRAME)		
PART #	DESCRIPTION	QTY
71-120-00	Key switch	1
79-840-20	Circuit breaker	1
71-110-00	Brake light switch	1
71-039-10	Light switch	1
71-039-00	Forward and revese switch	1
73-004-20	Horn	1
71-102-10	Seat switch	1
71-501-55	Horn button	1
75-149-19	Truck control harness	1
72-082-01	Headlight bulb	2
94-050-10	Left headlight assembly.	1
94-050-11	Right headlight assembly.	1
72-082-10	Front turn signal bulb (optional)	2
72-082-20	Turn signal bulb socket (optional)	2
72-025-00	Tail/stop light (w/rubber gasket and pigtail)	2
74-000-00	Hour meter (optional)	1
74-009-48	Battery status indicator	1
71-900-05	Signal flasher (optional)	1
71-141-20	Turn signal switch (optional)	1