

# **OPERATOR'S MANUAL WITH ROUTINE MAINTENANCE**

**MODEL : R 3-80**  
**SERIAL NUMBER : 78167 - 81203**  
**YEAR : Mar '85 - Nov '85**  
**MANUAL NUMBER: MR-380-01**

## **- IMPORTANT -**

**READ AND FOLLOW INSTRUCTIONS GIVEN  
IN SAFETY & OPERATIONS AND THOSE  
SECTIONS RELATED TO YOUR SERVICE  
AND REPAIR RESPONSIBILITIES**



**TAYLOR-DUNN**

*Commercial and Industrial Vehicles Since 1949*

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## IMPORTANT INFORMATION

This vehicle conforms to applicable portions of ANSI B56.8 (American National Standard Personnel and Burden Carriers). This manual is designed for use by Vehicle Operators and Service Personnel alike. Throughout the manual, there are various WARNINGS, CAUTIONS, and NOTICES which must be carefully read to help reduce the possibility of personal injury. Maintenance personnel must understand that if a service procedure or method is used that is not recommended by Taylor-Dunn, it then becomes the personal responsibility of the person performing the work to first satisfy himself that neither his safety, the safety of others, or the safety of the vehicle will be endangered. ANSI B56.8 applies to only those vehicles with serial numbers dated after July 31, 1982.

Definition of the three terms are as follows:

**▲ WARNING** - There is a potential for injury to yourself and others.

**CAUTION** - There is a potential for damage to the vehicle.

**NOTE** - Specific information clarifying or giving the reason for a particular maintenance or service procedure.

Before operating your Taylor-Dunn vehicle, it is your responsibility to read, understand and follow the safety and operating instructions contained in this manual to help ensure your safety and comfort. If this car is to be used for rental purposes, it is your responsibility to explain to the operator about the various controls and vehicle operating characteristics. Equally important is the operators "need to know" the basic rules required for safe operation of the vehicle in day to day usage. Sections 5 and 6 of ANSI B56.8 have been inserted in Section 3 page 3 of this manual for your specific operating guidelines.

1. Vehicle is to be operated only by qualified persons and only in designated areas.
2. Vehicle will not be started until all occupants are seated.
3. Occupants must remain seated while vehicle is in motion.
4. Arms, legs and feet must be kept inside while vehicle is in motion.
5. Slow down making a turn.
6. Drive slowly straight up and down inclines.
7. Set parking brake before leaving vehicle.
8. Forward/Reverse switch must be in the correct position for direction of travel desired.

**▲ WARNING:** FAILURE TO COMPLY WITH ABOVE INSTRUCTIONS COULD RESULT IN INJURY TO THE VEHICLE OCCUPANTS, BYSTANDERS AND TO PROPERTY.

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\* NOTE: THIS MANUAL IS FOR SIMPLE MAINTENANCE ONLY. MAINTENANCE ON PWR-TRONS, DRIVE UNITS AND MOTORS SHOULD BE SERVICED AT AN AUTHORIZED TAYLOR-DUNN DEALERSHIP. COMPLETE MAINTENANCE MANUALS WITH DETAILED INSTRUCTIONS AND PARTS LISTS ARE AVAILABLE FROM TAYLOR-DUNN DEALERS.

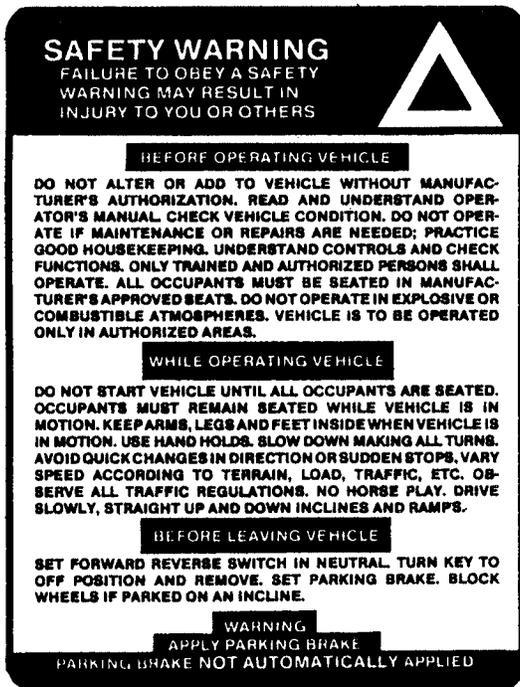
INSPECTION, SAFETY AND INTRODUCTION  
ARRIVAL INSPECTION CHECKLIST

Visual Inspection should be made to determine that the truck has remained in good condition during transit. If any damage is found, the details should be noted on the delivery receipt immediately. After delivery the truck should be most carefully checked for HIDDEN DAMAGE. Any concealed damage not noted on the delivery receipt should be reported, in writing, to the delivering carrier within 48 hours.

The following checklist has been prepared to aid you during arrival and inspection of your vehicle.

- A. Open all packages and examine any accessories which may be shipped detached from vehicle.
- B. Examine wiring for visible evidence of damage. Check all connections to insure that none have loosened during transit.
- C. Check all battery connections and electrolyte level in each cell.
- D. Inspect battery charger in accordance with manufacturers installation instructions.
- E. Check tires for damage and proper inflation. Check wheel lugs to insure tightness.
- F. If vehicle is equipped with hydraulic brakes, check hydraulic lines for evidence of damage.
- G. Check brake fluid level in master cylinder, if hydraulic brakes.
- H. Examine entire vehicle for damage such as dents or cracks.
- I. Check operation of controls to see that they are working freely.

Upon completion of the Visual Inspection, an operational test should be made after a thorough review of Sections 1, 2 and 3.



**WARNING**

BATTERY GASES CAN BE EXPLOSIVE. KEEP SPARKS, FLAMES AND LIGHTED CIGARETTES AWAY FROM BATTERY. DANGER IS INCREASED WHILE CHARGING. IF CHARGING WHILE BATTERIES ARE IN VEHICLE, VEHICLE MUST BE IN A WELL VENTILATED AREA.



**WARNING DECAL**

Indicates the possibility of immediate danger and must not be ignored.  
94-313-00

**SAFETY WARNING DECAL**

94-313-20

This decal is located on the front cowl. All information is for your safety, occupants and those around you. This decal and all others must remain in the vehicle.

INSPECTION, SAFETY AND INTRODUCTION  
SAFETY

The safe and satisfactory use of any vehicle is a responsibility shared by many persons.

As the manufacturer, we feel that it is our responsibility to emphasize vehicle characteristics and make safety recommendations regarding those characteristics. That is the primary purpose of this portion of the manual.

Persons who operate this vehicle need to be aware of, and to observe, the safe driving rules established in their locality, and need also to be aware of the vehicle operating characteristics and safety recommendations of the manufacturer, to assist them in exercising the judgement necessary to prevent injury to themselves or to others.

**IMPORTANT:** Persons who service and maintain the vehicle need to be aware of how their activities relate to safe vehicle operation, and of potential hazards involved in their service and maintenance processes, to assist them in applying sensible judgement to those processes.

**STEERING:** This vehicle has a very small minimum turning radius, and low ratio steering leverage.

**CAUTION:** These characteristics, so desirable for maneuverability at slow speeds, require that great care be exercised at high speeds to avoid turning so sharply that one or more wheels lose contact with the ground, or that the vehicle is caused to overturn. Be especially careful while traveling on an incline. Avoid sharp turns, even at slow speeds.

**SPEED:** This vehicle is designed to attain its maximum safe operating speed on level ground. That speed can easily be exceeded when traveling down hill. If this is allowed to occur, vehicle stability and braking performance become unpredictable. **▲ WARNING: DO NOT exceed, under any circumstances, the maximum design speed of the vehicle.**

**CONTROLS:** Bring the vehicle to a complete stand still before operating the forward/reverse switch to change direction of travel. DO NOT use the accelerator to hold the vehicle at a standstill on an incline. Use only the brakes to hold the vehicle at rest while on a hill. **▲ WARNING: intentional/unintentional mis-use of controls could result in an accident.**

**BRAKES (MECHANICAL DISC):** The brake system relies on contact of rear tires with the ground for effectiveness. As tire to ground contact is reduced, braking effect is reduced. While driving, the operator must consider terrain, speed and steering maneuvers to prevent tires from losing contact with the ground, with consequent reduction of braking action.

**MAINTENANCE:** Many operating characteristics relate to maintenance in ways which are not readily obvious. Those maintenance characteristics most closely related to vehicle operating safety are indicated in Sections 3 and 4.

**CAUTION:** Also to be considered is the safety of personnel who perform service and maintenance duties. Two characteristics need special emphasis.

1. This electric vehicle does not "idle" noisily, is never "out of gear", and is set into motion whenever the battery to the motor circuit is closed, intentionally or otherwise. Whenever practical disconnect battery leads to avoid unintentional starting of the motor during servicing or maintenance.

SAFETY continued

2. Batteries emit gasses which can be explosive, especially while they are being charged. Personnel who are involved with servicing vehicles, or maintaining vehicles, need to be made familiar with this hazard. A detailed explanation is contained in Section 7.

**△ WARNING:**

1. When performing maintenance on any part of the vehicle electrical system, disconnect main battery leads, place forward/reverse switch in neutral. Remove key from keylock in dash panel.
2. Never replace a circuit fuse with one having a higher rating than the original equipment fuse. Fuses have been selected to provide full circuit protection for all operating conditions. **A FUSE WILL ONLY BLOW DUE TO A SHORT CIRCUIT.** Therefore, always locate and correct the cause of short-circuit before replacing a blown fuse. Using a fuse of higher rating is an **UNSAFE PRACTICE** and could cause serious damage to equipment.

INTRODUCTION

This vehicle is designed to be driven on smooth surfaces in and around industrial plants, nurseries, institutions, motels , mobile home parks and resorts. It is not designed to be driven on the public highways. It is not designed to go in excess of 15 mph on level surfaces or downhill. Speeds in excess of this may result in steering difficulty and possible loss of vehicle control. Vehicle is not designed to be towed in excess of 15 mph.

SERIAL NO.

The model number and serial number are on a metal plate attached to the cowl panel right hand side. In ordering parts or referring to your unit, please use these numbers. Replacement parts can be purchased directly from your local authorized dealer.

## TAYLOR-DUNN LIMITED 90 DAY WARRANTY

TAYLOR-DUNN MANUFACTURING COMPANY (TDMC), warrants each new Taylor-Dunn vehicle for ninety (90) days according to the following terms:

This warranty provides coverage for the original retail purchaser only and becomes effective on the date of the original retail purchase.

Any part of the Taylor-Dunn vehicle manufactured or supplied by TDMC and found in the reasonable judgment of TDMC to be defective in material or workmanship will be repaired and/or replaced at the business location of an authorized Taylor-Dunn distributor only without charge for parts and labor. The Taylor-Dunn vehicle (including any defective part) must be delivered to an authorized Taylor-Dunn distributor within the warranty period.

All costs of a service call regarding warranty-related repairs and/or replacements on the Taylor-Dunn vehicle at the owner's location, the labor performed by the distributor at the owner's location, all costs of delivering the Taylor-Dunn vehicle to the distributor for warranty work and the costs of returning the Taylor-Dunn vehicle back to the owner after repair or replacement will be paid for by the owner. Proof of purchase will be required by the authorized Taylor-Dunn distributor to substantiate any warranty claim. All warranty work must be performed by an authorized Taylor-Dunn distributor.

TDMC does not provide a warranty related to SCR's, tires, batteries, chargers, or other parts not of their manufacture as such parts are usually warranted separately by their respective manufacturers.

This warranty does not include service items subject to normal wear such as brake linings, seals, belts, light bulbs and fuses.

This warranty does not provide coverage for any Taylor-Dunn vehicle that has been subject to misuse, neglect, negligence, accident, or operated in any way contrary to the operating or maintenance instructions as specified in the TDMC operator's manual. The warranty does not apply to any Taylor-Dunn vehicle that has been altered or modified so as to adversely affect the vehicle's operation, performance or durability or that has been altered or modified so as to change its intended use. In addition, the warranty does not extend to repairs made necessary by normal wear, or by the use of parts or accessories which in the reasonable judgment of TDMC are either incompatible with the Taylor-Dunn vehicle or adversely affect its operation, performance or durability.

Repairs or replacements qualifying under this warranty will be performed by an authorized Taylor-Dunn distributor following delivery of the vehicle to the distributor's place of business. TDMC's responsibility in respect to claims is limited to making the required repairs or replacements. No claim of breach of warranty shall be cause for cancellation of the contract of sale of any Taylor-Dunn vehicle.

TDMC assumes no liability or responsibility for loss of use of the Taylor-Dunn vehicle, loss of time, inconvenience, or other damage, consequential or otherwise, including, but not limited to, all costs for delivering the Taylor-Dunn vehicle to the distributor and all costs of returning the vehicle back to the owner, mechanic's travel time, telephone or telegram charges, trailering or towing charges, rental of a like vehicle during the time warranty repairs are being performed, travel, lodging, loss or damage to personal property, or loss of revenue.

TDMC reserves the right to change or improve the design of any vehicle without assuming any obligation to modify any TDMC vehicle previously manufactured.

All implied warranties are limited in duration to the ninety (90) day warranty period. Accordingly, any such implied warranties

including merchantability, fitness for a particular purpose, or otherwise, are disclaimed in their entirety after the expiration of the ninety (90) day warranty period. TDMC's obligation under this warranty is absolutely and exclusively limited to the repair or replacement of defective parts, and TDMC does not assume, or does not authorize anyone to assume for them, any other obligation.

This warranty applies to all TDMC vehicles sold in the United States.

### WARRANTY SERVICE

To make a claim under warranty, contact an authorized Taylor-Dunn distributor immediately upon realizing a problem exists. We recommend having the warranty work performed by the distributor who originally sold you the vehicle; however, warranty work can be obtained from any authorized Taylor-Dunn distributor. Remember, your Taylor-Dunn vehicle must be delivered to an authorized distributor within the warranty period, and all warranty work must be performed only by an authorized Taylor-Dunn distributor. Your proof of purchase will be required by the dealer to verify any warranty claim.

#### Examples of Items Not Covered by Warranty

Provisions of the warranty will not apply to:

Normal service requirements occurring during the warranty period, such as adjustment and cleaning or wear of a drive belt, drive chain, brake or rheostat.

Normal service work over and above the repair and replacement of defective parts. Vehicles subject to misuse, neglect, negligence, or accident.

Vehicles that have been altered or modified so as to adversely affect their operation, performance or durability or to change their intended use.

Repairs made necessary by the use of parts or accessories which are either incompatible with the vehicle or adversely affect its operation, performance or durability.

Vehicles not operated or maintained in accordance with the instructions in the Taylor-Dunn Operator's Manual.

Periodic checking, lubricating the vehicle or service check-up.

All costs of delivering the vehicle to the distributor and all costs of returning the vehicle back to the owner, mechanic's travel time, trailering or towing charges, or rental of a like vehicle during the time warranty repairs are being performed.

This warranty applies only to the original retail purchaser. Second-owner or subsequently owned vehicles are not covered under the warranty.

#### Owner's Obligation and Responsibility

Normal maintenance service and replacement of service items are the responsibility of the owner and as such are not considered defects in material or workmanship with the terms of this warranty. Individual operating habits and usage may contribute extensively to the need for maintenance service.

Consult with your authorized Taylor-Dunn distributor for advice on proper maintenance and care of your vehicle. Proper maintenance and care will be very helpful in keeping your overall operating costs at a minimum.

To assure warranty coverage, it is the owner's responsibility to maintain all components in proper adjustment and to service the vehicle as specified in the Taylor-Dunn Vehicle Operator's Manual. It is the owner's responsibility to provide proper lubrication for all components and provide correct recommended battery maintenance, to maintain the battery liquid level and charge as specified, as well as maintain the correct pressure in the tires of the vehicle.

## OPERATING INSTRUCTIONS

The controls on your Taylor-Dunn vehicle have been designed and located for convenience of operation and efficient performance. Before driving your vehicle for the first time, familiarize yourself with each of the controls. Read the following instructions and with power OFF, operate each control.

### STEERING

The steering wheel and steering system is similar to automotive types. Turn the steering wheel to the right (clockwise) for a right turn and left (counterclockwise) for a left turn.

### KEY LOCK

Your vehicle is equipped with a keyed lock located on the instrument panel. It is designed to lock the switch in the neutral position only. The key will remove from the lock in the locked position (neutral) only.

### AUTOMATIC DEADMAN SEAT SWITCH

This system is standard on your vehicle and acts as a safety feature when operator arises from seat. Seat will rise and disconnect battery/motor circuit.

### SERVICE BRAKE (FOOT)

The brake pedal is designed and located for right foot operation. It is the pedal located to the left of the accelerator pedal. It functions the same as the brake pedal in your automobile. Removing your foot from the pedal allows immediate release of the braking action to your vehicle.

### PARK BRAKE

This is a hand brake located next to the driver's seat. Take firm grip with right hand, depressing handle button and pull up. Release by depressing button and push down.

### FORWARD/REVERSE SWITCH

The forward/reverse switch is located on the instrument panel. It is a rocker type switch. Depressing the upper part places the vehicle in forward. Depressing the lower portion full downward places vehicle in reverse. Center position is off. **CAUTION: The forward/reverse switch serves the same purpose as the transmission SELECTOR in your automobile. Treat it with the same respect and care. DO NOT SHIFT from forward to reverse or vice-versa while the vehicle is in motion.**

### ACCELERATOR SWITCH

The accelerator pedal is located to the right of the brake pedal. It is designed for right foot operation similar to your automobile. Depressing the pedal turns the power on to the motor. It also controls the amount of power delivered to the motor. When driving your vehicle you will be able to feel full power when accelerator is fully depressed and minimum power when only partially depressed. You will have the same control of power in both directions of travel. Your forward/reverse switch determines the direction of travel and your accelerator pedal controls the speed.

### HORN BUTTON

The horn button is located on the floor board to the left of the steering column. Depressing button sounds horn. Releasing button will immediately silence horn.

### CHARGE INDICATOR:

Located on instrument panel. Shows condition of batteries at all times.

OPERATING INSTRUCTIONS continued

BATTERY CHARGER

Refer to Section 8 for proper instructions to operate your battery charger.

STANDARD OPTIONAL ACCESSORIES

WINDSHIELD WIPER

On vehicles equipped with electric windshield wipers use the Accessory (ACC) Control Switch.

DIRECTION SIGNALS

On vehicles equipped with directional turn signals the control is located on the steering column. Move the control lever in the direction you will be turning your steering wheel to signal the direction you intend to turn your vehicle. Indicating lamps are located within the turn signal control for your convenience.

The directional turn signal also serves as an emergency flasher control by pulling the control lever outward away from steering column when in neutral position.

HEADLIGHT (IF SO EQUIPPED) AND DUAL TAILLIGHTS

Use instrument panel switch labeled, "HEADLIGHT"

MAJOR OPTIONS (SEE SECTION 14)

CAB

An all metal cab with or without metal doors

TOOL BOX

Mounts two metal doors to rear compartment

FOLD DOWN REAR SEAT

Folds into rear deck when not in use

CARGO BOX

All metal with rear doors.

NOTE: Other items are also shown in Section 14 for kit up-dating of basic vehicles.

OPERATING YOUR VEHICLE

To put your vehicle into operation; sit on seat, turn key on (clockwise). Select direction you wish to travel by activating forward reverse switch then slowly depress accelerator pedal until vehicle is moving at the desired speed. Steer vehicle as required, utilizing the foot brake and accelerator to control your speed as desired.

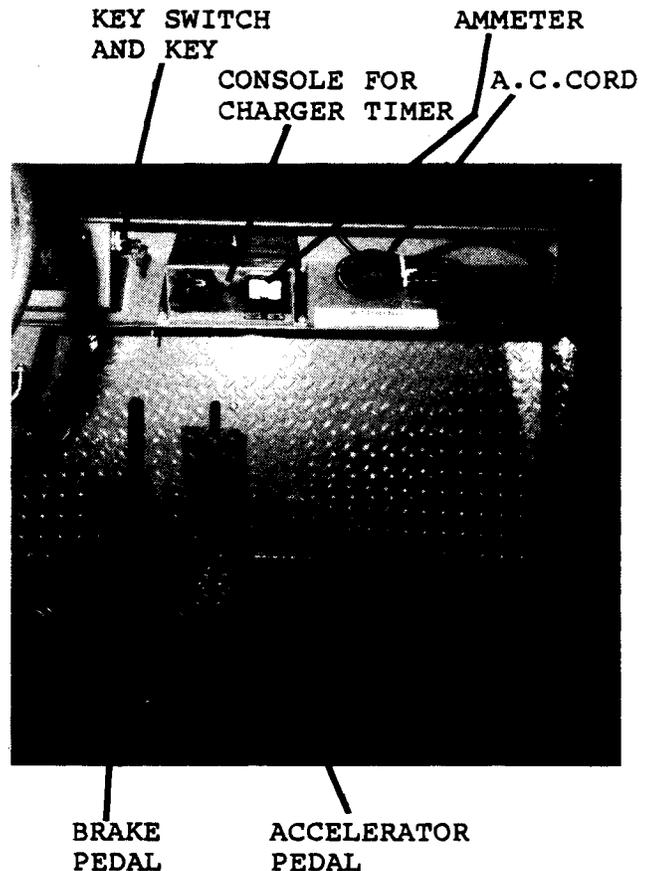
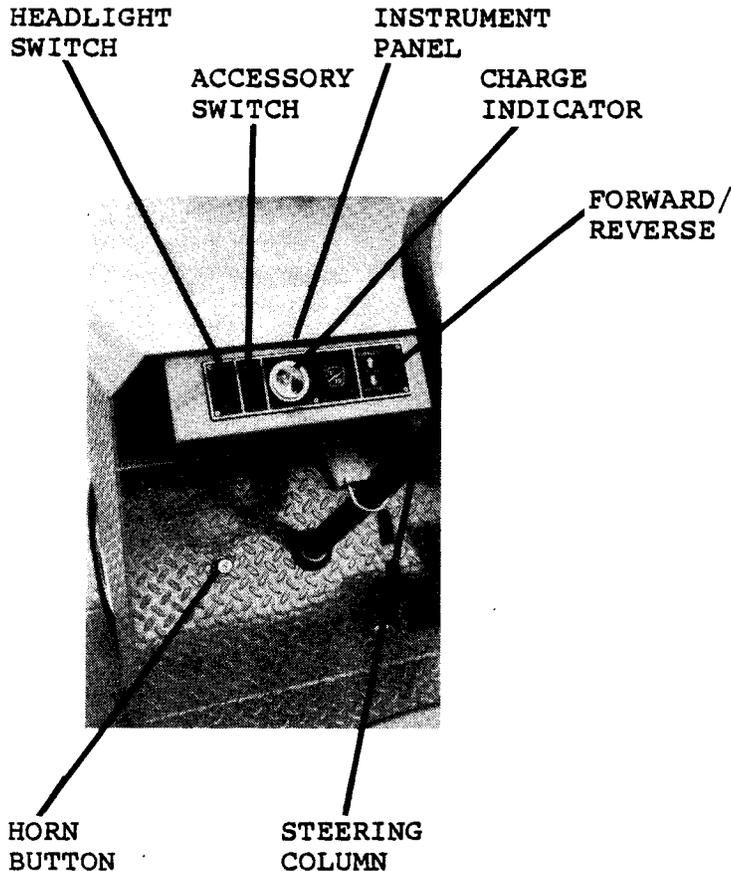
CAUTION:

DO NOT "HOLD" VEHICLE AT A STANDSTILL ON A HILL OR INCLINE USING ACCELERATOR ONLY. CONTINUED "STALLED" CONDITION AS DESCRIBED WILL DAMAGE MOTOR AND ELECTRICAL CONTROLS. USE YOUR FOOT BRAKE TO HOLD THE VEHICLE ON A HILL SAFELY.

 WARNING:

WHEN YOU LEAVE YOUR VEHICLE, SET HAND BRAKE, PLACE FORWARD/REVERSE SWITCH IN NEUTRAL POSITION AND REMOVE KEY.

DRIVE SAFELY AND ENJOY YOUR TAYLOR-DUNN VEHICLE



OPERATING RESPONSIBILITIES  
AMERICAN NATIONAL STANDARD PERSONNEL AND BURDEN CARRIERS  
ANSI B 56.8-1981  
SECTION 5  
OPERATING RULES AND PRACTICES

501 OPERATOR QUALIFICATIONS

Only trained and authorized operators shall be permitted to operate a Personnel and Burden Carrier. Operators of Personnel and Burden Carriers shall be qualified as to visual, auditory, physical, and mental ability to safely operate the equipment according to Section 5 and all other applicable parts of this standard.

502 PERSONNEL AND BURDEN CARRIER OPERATORS' TRAINING

(a) The carrier owner, lessee, or employee of the carrier operator shall conduct an operators' training program for the carrier operators.

(b) Successful completion of the operators' training program shall be required by the owner, lessee, or employer of the carrier operator before operation of the Personnel and Burden Carrier by any operator.

(c) An effective operator's training program should center around user company's policies, operating conditions, and their Personnel and Burden Carrier by any operator.

(d) Information on operator training is available from several sources, including carrier manufacturers.

(e) The carrier owner, lessee or employer of the carrier operator should include in the operators' training program the following:

OPERATING RESPONSIBILITIES continued  
ANSI B56.8-1981

- (1) Careful selection of the operators, considering physical qualifications, job attitude and aptitude.
- (2) Emphasis on safety of stock, equipment operator, and other employees.
- (3) General safety rules contained in this standard and the additional specific rules determined by the carrier owner, lessee, or employer of the carrier operator in accordance with this standard, and why they were formulated.
- (4) Introduction of equipment, control locations and functions, and explanation of how they work when used properly and when used improperly; and ground and floor conditions, grade, and other conditions of the environment in which the Personnel and Burden Carrier is to be operated.
- (5) Operational performance tests and evaluations during, and at completion of the program.
- (6) Rules of the employer and any applicable labor contract governing and dealing with discipline of employees for violation of employer's rules, and including safety rules.

503 OPERATOR RESPONSIBILITY

Operators of Personnel and Burden Carriers shall abide by the following safety rules and practices in 504, 505, 506, and 507.

504 GENERAL

- (a) Safeguard the pedestrians at all times. Do not drive carrier in a manner that would endanger anyone.
- (b) Riding on the carrier by persons other than the operator is authorized only when personnel seat(s) are provided. Do not put any part of the body outside the outer perimeter of the carrier.
- (c) When a Personnel or Burden Carrier is left unattended, stop carrier, place directional controls in neutral, apply the parking brake, stop the engine or turn off power, turn off the control or ignition circuit, remove the key if provided, and block the wheels if machine is on an incline.
- (d) A Personnel and Burden Carrier is considered unattended when the operator is 25 ft. (7.6 m) or more from the carrier which remains in his view, or whenever the operator leaves the carrier and it is not within his view. When the operator of a Personnel and Burden Carrier is dismounted and within 25 ft. (7.6 m) of the carrier still in his view, he still must have controls neutralized, and brakes set to prevent movement.
- (e) Maintain a safe distance from the edge of ramps and platforms.
- (f) Use only approved Personnel and Burden Carriers in hazardous locations.
- (g) Report all accidents involving personnel, building structures, and equipment.
- (h) Operators shall not add to, or modify, the Personnel or Burden carrier.
- (i) Fire aisles, access to stairways, and fire equipment shall be kept clear.
- (j) Operators and personnel shall be warned of the hazards of long hair and loose clothing.

505 TRAVELING

- (a) Observe all traffic regulations, including authorized plant speed limit. Under normal traffic conditions keep to the right. Maintain a safe distance, based on speed of travel, from the carrier or vehicle ahead; and keep the Personnel and Burden Carrier under control at all times.
- (b) Yield the right of way to pedestrians, ambulances, fire trucks, or other carriers or vehicles in emergency situations.

OPERATING RESPONSIBILITIES continued

.505 TRAVELING continued

- (c) Do not pass another carrier or vehicle traveling in the same direction at intersections, blind spots, or at other dangerous locations.
- (d) Keep a clear view of the path of travel, observe other traffic and personnel, and maintain a safe clearance.
- (e) Slow down and sound the audible warning device at cross aisles and other locations where visibility is obstructed.
- (f) Ascend or descend grades slowly.
- (g) Use extra caution when operating on grades. Never turn on any grade, ramp, or incline; always travel straight up and down.
- (h) Under all travel conditions the carrier shall be operated at a speed that will permit it to be brought to a stop in a safe manner.
- (i) Make starts, stops, turns, or direction reversals in a smooth manner so as not to shift the load, overturn the carrier, or both.
- (j) Do not indulge in stunt driving or horseplay.
- (k) Slow down when approaching, or on, wet or slippery surfaces.
- (l) Do not run carrier onto any elevator unless specifically authorized to do so. Approach elevators slowly, and then enter squarely after the elevator car is properly leveled. Once on the elevator, neutralize the controls, shut off power, and set brakes. It is advisable that all other personnel leave the elevator before a carrier is allowed to enter or leave.
- (m) Avoid running over loose objects on the roadway surface.
- (n) Prior to negotiating turns, reduce speed to a safe level, turning hand steering wheel or tiller in a smooth, sweeping motion.

506 LOADING

- (a) Handle only stable or safely arranged loads. When handling off-center loads which cannot be centered, operate with extra caution.
- (b) Handle only loads within the capacity of the Personnel and Burden Carrier as specified on the name plate.
- (c) Handle loads exceeding the dimensions used to establish carrier capacity with extra caution. Stability and maneuverability may be adversely affected.

507 OPERATOR CARE OF MACHINE

- (a) At the beginning of each shift during which the Personnel and Burden Carrier will be used, the operator shall check the carrier condition and inspect the tires, warning devices, lights, battery, controller, brakes, and steering mechanism. If the carrier is found to be in need of repair, or in any way unsafe, or contributes to an unsafe condition, the matter shall be reported immediately to the designated authority, and the carrier shall not be operated until it has been restored to safe operating condition.
- (b) If, during operating the carrier becomes unsafe in any way, the matter shall be reported immediately to the designated authority, and carrier shall not be operated until it has been restored to safe operating condition.
- (c) Do not make repairs or adjustments unless specifically authorized to do so.
- (d) The engine shall be stopped and the operator shall leave the carrier while refueling.
- (e) Spillage of oil or fuel shall be carefully and completely absorbed or evaporated and fuel tank cap replaced before starting engine.
- (f) Do not operate a carrier with a leak in the fuel system or battery.
- (g) Do not use open flames for checking electrolyte level in storage batteries or liquid level in fuel tanks.

SECTION 6  
MAINTENANCE PRACTICES

601 INTRODUCTION

Personnel and Burden Carriers may become hazardous if maintenance is neglected. Therefore, maintenance facilities, trained personnel, and procedures shall be provided.

602 MAINTENANCE PROCEDURES

(a) Maintenance and inspection of all Personnel and Burden Carriers shall be performed in conformance with the manufacturer's recommendations and the following practices.

(b) A scheduled preventive maintenance, lubrication, and inspection system shall be followed.

(c) Only qualified and authorized personnel shall be permitted to maintain, repair, adjust, and inspect Personnel and Burden Carriers.

(d) Before leaving the Personnel and Burden, stop carrier, place directional controls in neutral, apply the parking brake, stop the engine or turn off power, turn off the control or ignition circuit, and block the wheels if carrier is on an incline.

(e) Before undertaking maintenance or repair on carrier, raise drive wheels free of floor or disconnect battery, and use chocks or other positive carrier positioning devices.

(f) Block chassis before working under it.

(g) Before disconnecting any part of the engine fuel system of a gasoline or diesel powered carrier with gravity feed fuel systems, be sure shutoff valve is closed, and run engine until fuel system is depleted and engine stops running.

(h) Before disconnecting any part of the fuel system of LP gas powered carriers, close the LP gas cylinder valve and run the engine until fuel in the system is depleted and the engine stops running.

(i) Operation to check performance of the Personnel and Burden Carrier shall be conducted in an authorized area where safe clearance exists.

(j) Before starting to operate the carrier:

- 1) Have operator in operating position.
- 2) Depress clutch (or brake pedal on automatic transmission and electric carriers).
- 3) Place directional controls in neutral.
- 4) Start engine or switch electric carrier to "on" position.
- 5) Check functioning of directional and speed controls, steering, warning devices, and brakes.

(k) 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 fuel, electrolyte, or coolant. Do not use open pans of fuel or flammable cleaning fluids for cleaning parts.

(l) Properly ventilate work area.

(m) Handle LP gas cylinders with care. Physical damage, such as dents, scrapes, or gauges, may dangerously weaken the tank and make it unsafe for use.

(n) Brakes, steering mechanisms, control mechanism, warning devices, lights, governors, guards, and safety devices shall be inspected regularly and maintained in a safe operating condition.

(o) Special Personnel and Burden Carriers or devices designed and approved for hazardous area operation shall be inspected to ensure that maintenance preserves the original approved safe operating features.

(p) Fuel systems shall be checked for leaks and condition of parts. Action shall be taken to prevent the use of the carrier until the leak has been corrected.

(q) The Personnel and Burden Carrier manufacturer's capacity, operation and maintenance instruction plates, tags, or decals shall be maintained in legible condition.

MAINTENANCE PRACTICES continued  
ANSI B56.8-1981

602 MAINTENANCE PROCEDURES continued

(r) Batteries, motors, controllers, limit switches, protective devices, electrical conductors, and connections shall be inspected and maintained in conformance with good practice.

(s) Carriers shall be kept in a clean condition to minimize fire hazards and facilitate detection of loose or defective parts.

(t) Modifications and additions which affect capacity and safe machine operation shall not be performed by the customer or user without manufacturer's prior written authorization; where authorized modifications have been made, the user shall ensure that capacity, operation, warning and maintenance instruction plates, tags, or decals are changed accordingly.

(u) Care shall be taken to assure that all replacement parts are interchangeable with the original parts and of a quality at least equal to that provided in the original equipment.

 W A R N I N G

**When replacement parts are necessary, use Taylor-Dunn parts to insure original strength and characteristics.**

MAINTENANCE GUIDE CHECKLIST

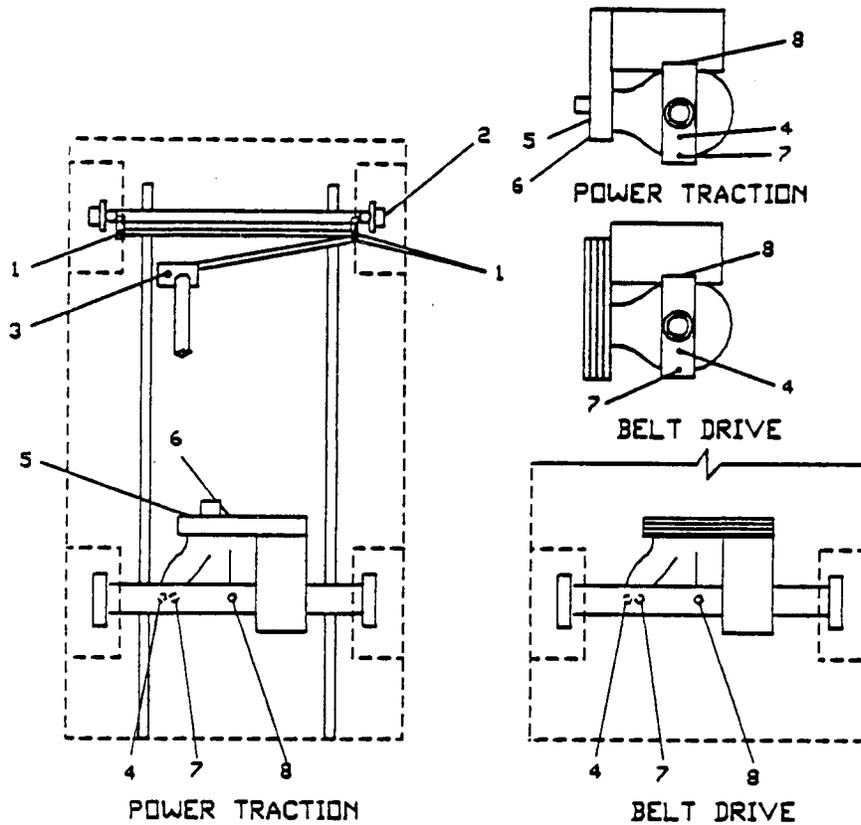
This checklist is provided for your convenience as a guide for servicing your vehicle. If followed you will enjoy a good running and trouble free unit. It has been set up for average normal use. More frequent service is recommended for extreme or heavy usage. If desired your Taylor-Dunn dealer will gladly perform these service for you as he has expert service men in the field for this purpose. Do not hesitate to call your Service Manager if any questions arise.

**⚠ WARNING:** When performing maintenance on any part of the electrical system, turn key to off position and remove from switch, disconnect main battery leads and place Forward/Reverse switch in neutral.

MAINTENANCE	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	EVERY YEAR
Check and fill batteries. If necessary fill with distilled water only.	X	X	X	X
Check tire pressure.	X	X	X	X
Adjust Motor Mount & Chain (Refer to chart Section 10)				
Lubricate all Zerk Fittings.			X	X
Lubricate all moving parts without Zerk Fittings. Use all purpose engine oil.			X	X
Wash off batteries with water, (use soda if necessary).			X	X
Check all wire connections. Be sure they are all clean and tight.			X	X
Check deadman seat and foot operated brake systems.		X	X	X
Check hydraulic brake system for leaks also check brake fluid level in master cylinder.			X	X
Check disc brake pad linings for wear. Adjust as necessary.			X	X
Check rear axle differential oil level (refer to lubrication diagram).				X
Check drive axle oil level (refer to lubrication diagram).				X
* Lubricate front wheel bearings (2 Zerk fittings)				X
Drain differential and refill with SAE 30 oil (refer to lubrication diagram)				
Repack front wheel bearings (use wheel bearing grease).				X
Lubricate steering gear box with 90# grease.				X
* Check and adjust front wheel bearings.			X	X

\* ITEMS RELATED TO SAFETY RECOMMENDATIONS

R 3-80 LUBRICATION DIAGRAM



- | A. PRESSURE GUN GREASE | NO. PLCS | FREQ.  |
|------------------------|----------|--------|
| 1. BALL JOINTS         | 3        | 3 MOS. |
| 2. FRONT WHL HUB       | 2        | 3 MOS. |
| 3. STEERING GEAR BOX   | 1        | 1 YR   |
- B. POWDERED GRAPHITE
- |          |   |      |
|----------|---|------|
| KEY LOCK | 1 | 1 YR |
|----------|---|------|
- C. SAE 30 OIL
- AXLE & DIFFERENTIAL
- |                |   |      |
|----------------|---|------|
| 4. LEVEL CHECK | 1 | 3 YR |
|----------------|---|------|
- OIL CHANGE-POWER TRACTION
- REMOVE DRAIN PLUGS 6 & 7 LEVEL PLUGS 4 & 5. FILL PLUG 8
  - DRAIN OIL. REPLACE 6 & 7
  - ADD OIL BY 8 TO LEVEL OF 4
  - ADD OIL BY 5, 1/2" BELOW 5
  - REPLACE 4, 5 & 8
- OIL CHANGE-BELT DRIVE
- REMOVE DRAIN PLUG 7 LEVEL PLUG 4 FILL PLUG 8
  - DRAIN OIL. REPLACE 7
  - ADD OIL BY 8 TO LEVEL OF 4
  - REPLACE 4 & 8
- ♦ ITEMS RELATED TO SAFETY  
♦♦ CHECK LEVEL WHENEVER LEAKAGE IS EVIDENT

R 3-80 LUBRICATION DWG.

TIRE CARE:

Tire pressure is governed by how you want your vehicle to ride and the terrain to which it is most commonly used upon.

Slightly lower pressure will assist traction of soft terrain without undue wear.

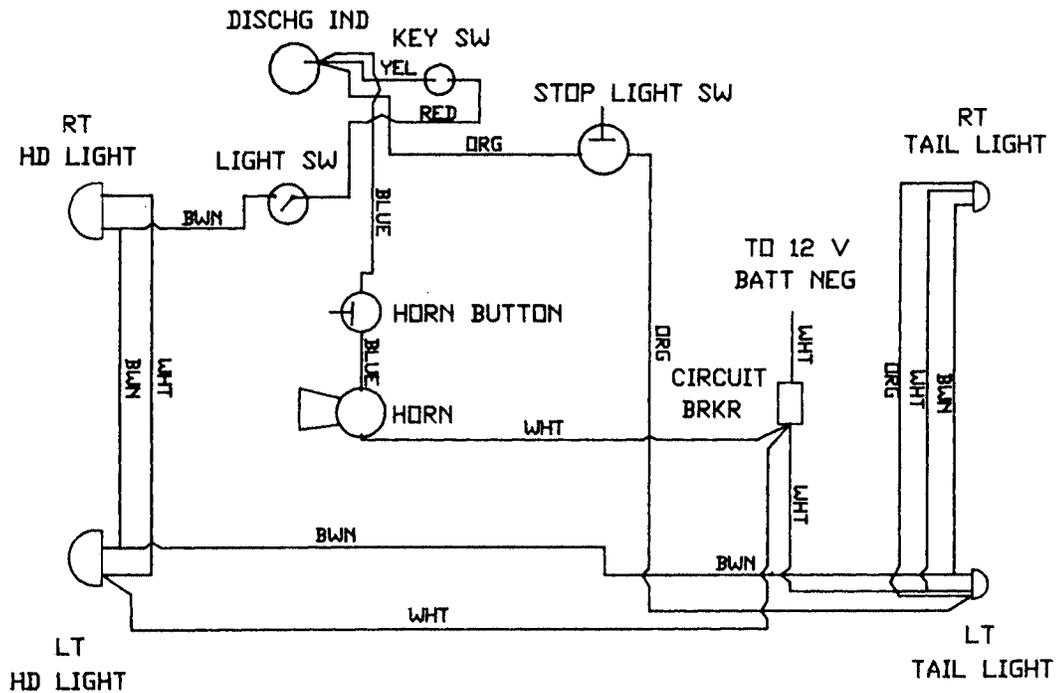
The chart listed below will assist you to determine the correct tire pressure for your needs.

TIRE		TIRE INFLATION CHART					
SIZE	TYPE	LOAD RANGE	RATING	MAXIMUM INFLATION (COLD) P.S.I.	5 MPH MAXIMUM LOAD POUNDS	10 MPH	15 MPH
4.80-8/400-8	HIGHWAY TREAD	A	2	35	640	505	470
4.80-8/400-8	HIGHWAY TREAD	B	4	70	960	760	710
4.80-8/400-8	STEELGUARD	C	6	100	1220	960	895
5.70-8/500-8	HIGHWAY TREAD	B	4	60	1240	980	915
5.70-8/500-8	HIGHWAY TREAD	C	6	90	1520	1240	1160
5.70-8/500-8	STEELGUARD	D	8	100	1860	1470	1370
16 X 6.50 X 8	TERRA TIRE	B	4	28		620	
18 X 8.50 X 8	TERRA TIRE	B	4	22		815	
18 X 9.50 X 8	TERRA TIRE	B	4	24		1040	

THE INFLATION AND LOAD RATINGS MOLDED ON HIGHWAY TREAD TIRES, PER FEDERAL STANDARD FMVSS-119, ARE FOR MAXIMUM HIGHWAY SPEED AND DO NOT APPLY TO THIS LOW SPEED VEHICLE.

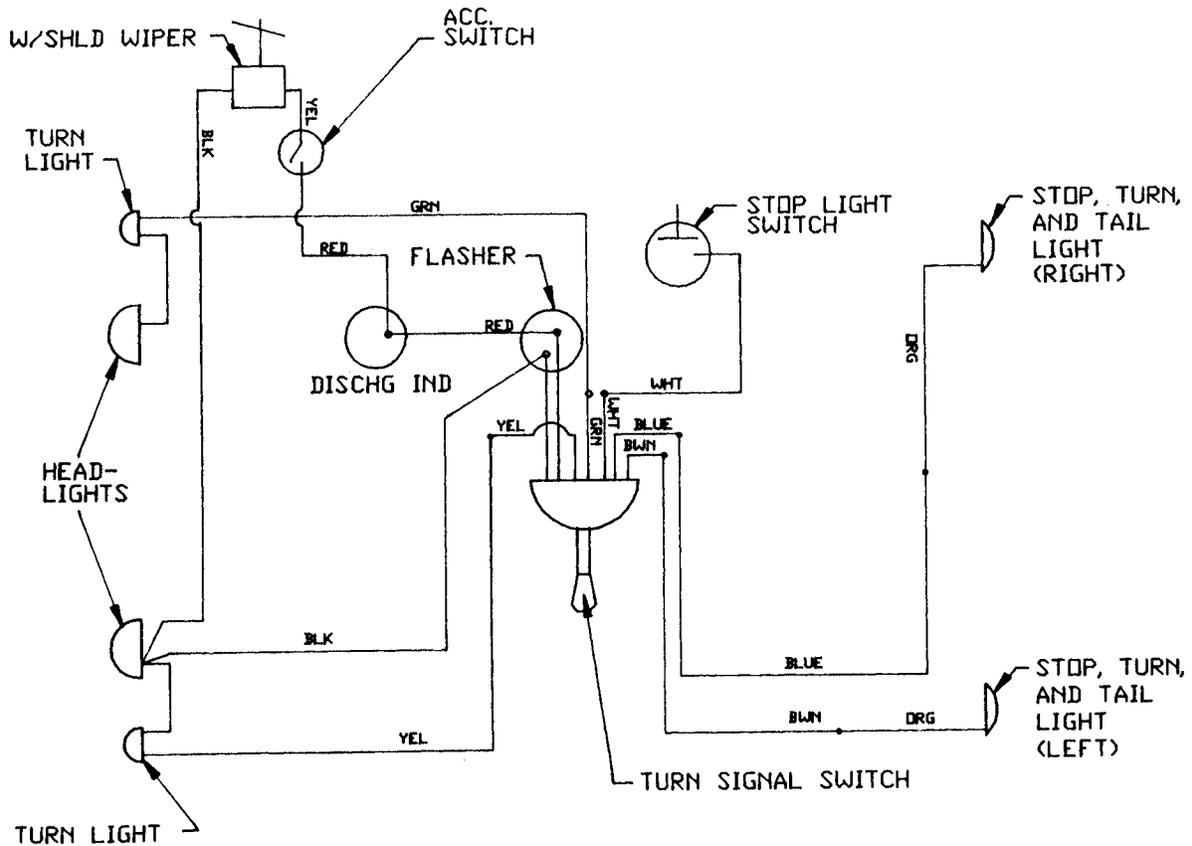
- TAYLOR-DUNN MANUFACTURING COMPANY -

**CAUTION:** Do not over-inflate tires as this will promote increased wear. Under inflation especially on hard surfaces also promotes undue wear and should be avoided.



R3-80  
WIRING DIAGRAM

NOTE: SEE POWER-TRON SECTION FOR POWER CIRCUITRY



TURN SIGNAL AND WIPER MOTOR  
WIRING DIAGRAM

BATTERIES, INSPECTION

**▲ WARNING - HAZARD OF EXPLOSIVE GAS MIXTURE**

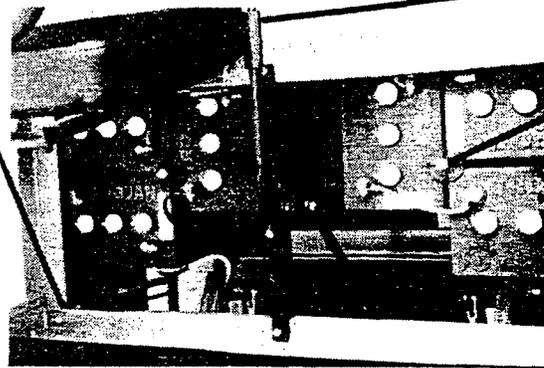
Batteries being charged or discharged will give off hydrogen gas. If this gas is concentrated it can cause an explosion. Concentrations of gas may remain for several hours if ventilation is not provided. **DO NOT** have any fire in the vicinity and do not tamper with circuits that might cause sparking while charging or discharging batteries.

INSPECTION OF BATTERIES AND ASSOCIATED CIRCUITS

Six, 6 volt batteries are located under front seat. An inspection of batteries and associated circuits is required to assure that the batteries are being properly charged. For this inspection we recommend the use of a hydrometer and a continuity tester.

ROD & SPRING  
DEADMAN SEAT

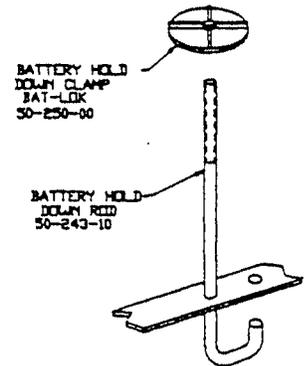
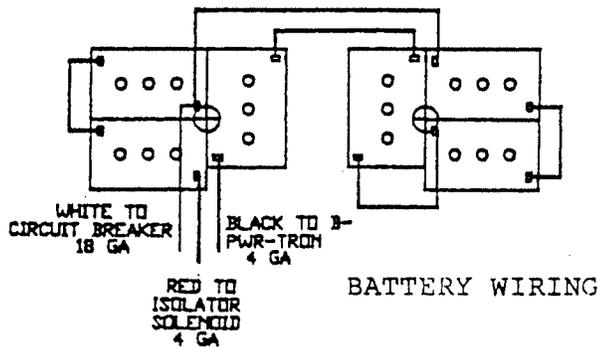
NOTE: PASSENGER  
SEAT REMOVED TO  
SHOW BATTERY  
COMPARTMENT



HAND PARK BRAKE

BAT LOK

BATTERY (6):  
190 AH 6V PART  
NO. 77-031-00



INSTALLATION OF BATTERY HOLD  
DOWN ROD AND CLAMP  
2 REQ'D

1. Verify that all connections within the unit to be charged are clean and right.
2. Check each battery for loose terminal posts.
3. Test for continuity between all battery terminals and the charging receptacle.
4. Verify that the top of each battery is free of moisture, grease and acid film, which may cause terminal corrosion and current leakage.
5. After the battery has been recharged, test each individual cell in each battery with the hydrometer to verify that all specific gravity readings are within 10 points of each other.
6. Using the hydrometer, pull out acid from a cell and then vigorously expel the acid back into the cell to cause a violent stirring action. Immediately draw out another sample of acid and visually inspect it to see if it contains brownish sediment (indicates positive plates are deteriorated).
7. When testing battery condition with hydrometer, always return electrolyte solution to the same cell from which it was removed. **DO NOT MIX** electrolyte from one cell to another.

## OPERATION OF "LESTER MATIC" BATTERY CHARGERS

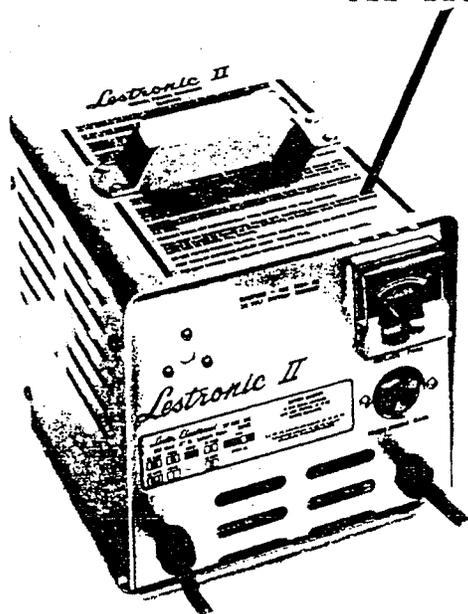
### INTRODUCTION

Your built-in Lester-Matic battery charger is a highly reliable, line compensating unit. When used according to instructions, the Lester-Matic will tend to lengthen battery life with less frequent additions of water.

### INITIAL INSTALLATION

A circuit breaker or fuse protection in the AC line to which the charger is to be plugged, should allow at least 15 amps per charger. When it is necessary to use an AC extension cord to the charger, use a three conductor No. 12 AWG cord with ground, and keep as short as possible. Instructions printed on the cover of the charger are for daily reference.

A Lestronic II charger is offered as an option. The Lestronic II eliminates under and over charging and shuts off automatically.



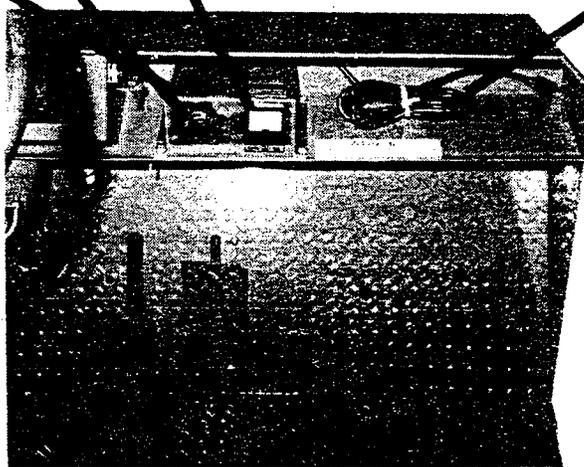
#### CHARGER CONTROL CONSOLE

TIMER KNOB, 79-806-00

AMMETER, 79-851-10

A.C. CORD

79-575-30



Your vehicle has a 36 volt 25 amp (79-304-05) built-in charger. The control is to the right of the steering column in the storage compartment. The charger is located at the rear of the vehicle under the deck-board.

## OPERATION OF "LESTER-MATIC" BATTERY CHARGERS

### NORMAL OPERATION

The state of discharge of the batteries will be slightly different every time they are put on charge, but the Lester-Matic varies automatically the initial charge rates, and taper of charge rate over the charge period. Thus momentary initial charge rate will vary from 18-30 amps, dropping quickly to a lower value, and then tapering gradually over the charge period to a finish rate of 1-4 amps (in the green shaded area of the ammeter dial) for the last 1-3 hours. When batteries are slightly discharged, the ammeter needle will be in the green shaded area for 7-8 hours, but the specific gravity will not rise to full charge until the cells have been equalized. The normal charging with the ammeter needle in the green shaded area is important to achieve equalization of all battery cells, every time the batteries are charged. Since the taper of the

OPERATION OF "LESTER-MATIC" BATTERY CHARGERS continued

NORMAL OPERATION continued

charging rate (in amps, as indicated by the ammeter needle) is controlled by the rising voltage of the batteries being charged, proper performance of the charger and resulting good battery life is dependent upon the following factors:

1. An adequate AC line to handle the power required (see "Initial Installation").
2. All cells of the batteries must be good, rising to approximately 2.5 DC volts per cell while still on charge or near the end of a 12 hour charging period. When in doubt, check each cell with a single voltmeter while still on charge. If a low reading is obtained; check the low cells with a temperature corrected hydrometer. NOTE: Hydrometer float must be thoroughly clean to obtain accurate specific readings.

CAUTION

**THIS CHARGER IS FOR USE ONLY ON BATTERY SYSTEMS OF THE TYPE AND CAPACITY SPECIFIED ON THE CHARGER NAMEPLATE. USE OTHERWISE WILL DAMAGE CHARGER AND/OR BATTERIES.**

STEP BY STEP PROCEDURES

1. Provide adequate ventilation for both batteries and charger. The convection cooled Lester-Matic requires an unobstructed flow of cooling air for proper operation.
2. Connect A.C. cord to wall plug.
3. Turn timer to "ON" for well discharged batteries or to 7 for lightly discharged batteries. Charger shuts off automatically at end of set period.
4. To determine approximate full charge at start of days use, turn timer knob to 1. Drop of ammeter needle to 1-4 amps in 15 minutes or less indicates full charge.
5. ALWAYS TURN TIMER TO "OFF" AFTER CHARGING.

### MOTOR MAINTENANCE

r maintenance of brushes only are covered in this section. DO NOT PERFORM  
PROCEDURE WHILE BATTERIES ARE BEING CHARGED.

etail maintenance of electric motors should be referred to your Taylor-Dunn  
ealer. Should it be necessary for you to order replacement parts for your  
otor, IT IS NECESSARY TO INCLUDE COMPLETE NAMEPLATE DATA WITH ORDER.

#### Remove and Install Motor - Belt Drive Vehicles

1. **CAUTION:** Disconnect both main battery leads to prevent accidental engagement of power while servicing unit.
2. Loosen motor mount clamp nuts slightly.
3. Loosen motor adjusting bolt lock nut and turn adjusting bolt in until belts can be easily lifted from pulley grooves without prying or forcing. Remove belts.
4. Clearly mark motor leads to assure proper location when reassembling. Remove motor leads.
5. Remove motor mount clamp nuts and clamp. Remove motor and mounting brackets from axle housing.

#### MOTOR MAINTENANCE - BRUSH INSPECTION AND REPLACEMENT

Part Number 70-054-00 (5BC49JB399 Series) and \*70-049-00(5BC48JB726 & JB754)

- .. Inspect for brush wear: Remove side plate and brush. Replace brush when pigtail is within 1/16" from bottom of pigtail slot.

For Motor, 70-049-00 See note on drawing "Brush Measurement Holes"

- .. If brushes are worn, remove motor from vehicle and remove motor end bell for access to brushes. Install new brushes. Use fine sandpaper to 'seat in' new brushes to commutator.

NOTE: When one brush is replaced in a motor, it is considered good maintenance practice to replace all brushes.

- .. Check operation of each brush to assure that brush slides freely and does not bind in holder.
- .. Replace motor end, reinstall in vehicle.

#### Quick Motor Removal Procedure - Power Traction

NOTE: This procedure is a quick method of removing the motor without removing the chain case cover.

- .. **CAUTION:** Disconnect both main battery leads to prevent accidental engagement of power while servicing unit.

- .. Drain oil from gear case by removing drain plug.
- .. Identify motor leads from proper connection when reassembling. Remove leads.
- .. Loosen 3 motor mount nuts and the adjusting set screw lock nut.
- .. Back-off adjusting screw sufficiently so as to allow motor mounting adjustment plate to be fully bottomed. This will allow for easy removal of motor.

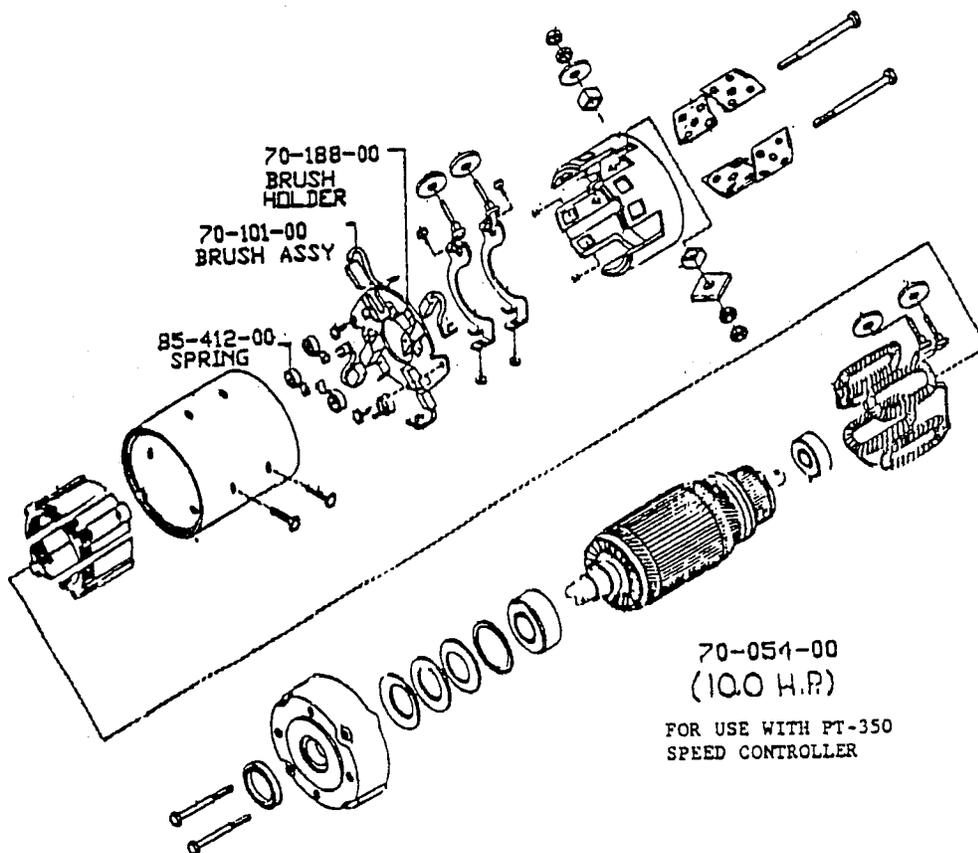
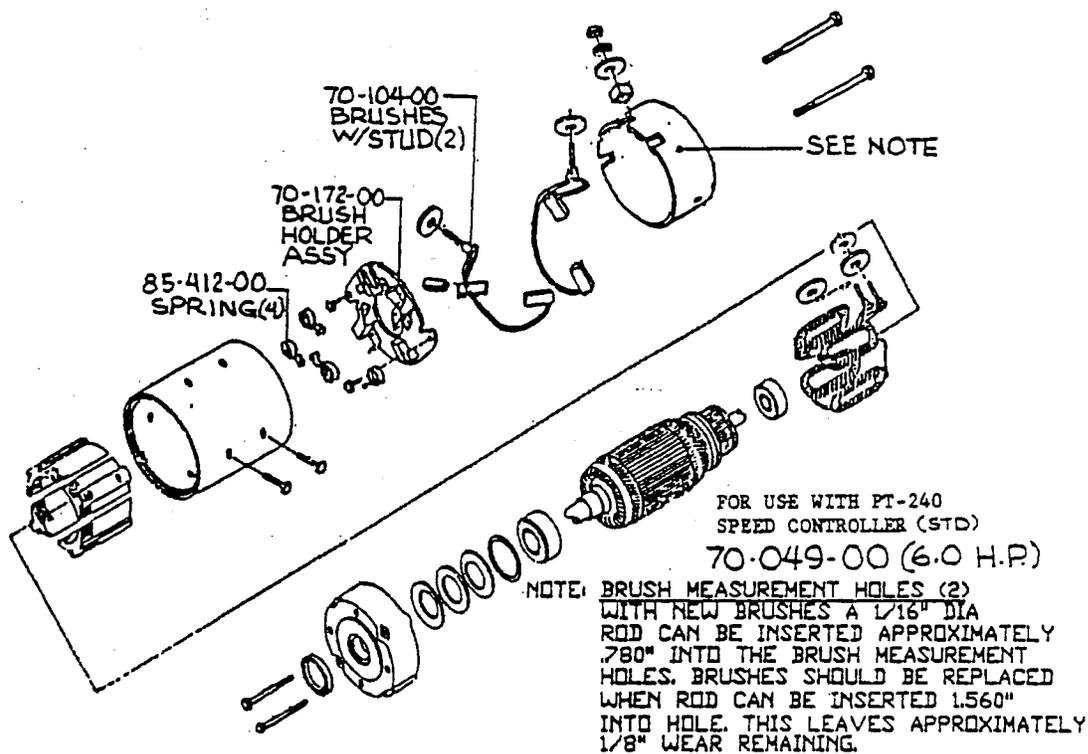
Remove the 3 motor mounting nuts and washers. Carefully ease motor out of opening after removing chain from motor sprocket.

MOTOR MAINTENANCE continued

Quick Motor Installation Procedure - Power Traction

1. If installing new motor, clean motor and motor mounting plate surfaces. Install motor mounting plate to motor (take care to position motor on plate properly) with 4 flat-head cap screws previously removed. Tighten screws to 30 ft. lb. torque and stake head in place with center punch.
2. If installing old motor, or if sprocket has been removed to repair motor, assemble spacers, key, sprocket, washer and shaft nut to motor shaft in the same manner as previously removed. Tighten shaft nut to 75 ft. lb. torque.
3. Place "O" ring in motor mounting plate opening.
4. Using a piece of wire (coathanger, etc), reach through the opening in the chain case backing plate and lift the chain above the opening. Secure the chain in this position by attaching the wire to the top mounting bolt, etc.
5. Remove a motor brush inspection cover so that the armature is plainly visible.
6. Rotate the motor slightly in the direction of the passengers seat so that the motor mounting plate clears the studs attached to the Chain case backing plate.
7. Carefully slip the motor sprocket in the hole and under the drive chain.
8. In this position move the vehicle slightly forward and backwards while observing the correct movement of the motor armature through the brush inspection opening.
9. Now, carefully reposition the motor onto the studs and install washers, lockwashers and nuts. DO NOT TIGHTEN NUTS. FINGER TIGHT ONLY.
10. Move the vehicle slightly forward and back and re-check the armature movement to insure chain has not slipped off sprocket. CAUTION: If chain is not properly positioned on sprocket, severe damage could occur to the Power Traction Component parts.
11. Adjust chain tension as described in Sub-section titled "Adjustment of Drive Chain Tension"; Section 10, Page 2.

R 3-80 MOTORS



Belt Tension Adjustment and Alignment - Belt Drive Vehicles

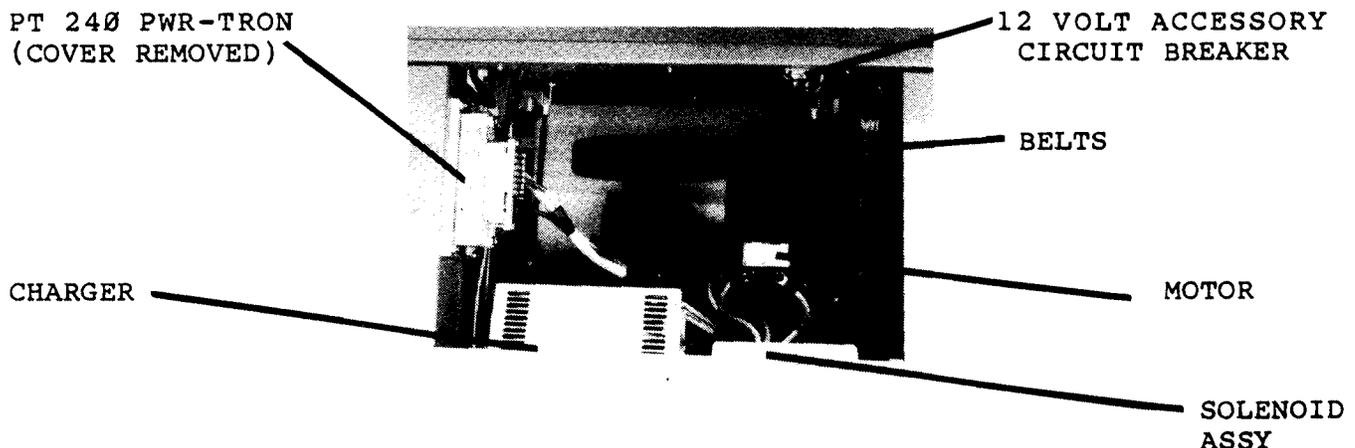
NOTE: New belts will 'seat-in' rapidly, therefore, re-adjust belt tension after only a few hours of running to prevent undue slippage and wear. It may be necessary to repeat the adjustment procedure two or three times within the first week or two or running until the new belts become thoroughly 'seated in'.

1. **CAUTION: Disconnect both main battery leads to prevent accidental engagement of power while servicing unit.**
2. Loosen motor mount clamp nuts slightly.
3. Loosen motor adjusting bolt lock nut and turn adjusting bolt in or out as needed to tension belts properly.  
NOTE: Belt tension is correct when belts will deflect between 1/4" and 3/8" at the mid point between pulleys. Press each bolt firmly at the mid point with your thumb or finger and measure the deflection at the same point.
4. Rotate drive pulley sufficiently so belts will travel at least one full turn and check belt tension again. This will allow belts to seat properly in grooves. Repeat tension adjustment as necessary until satisfactory results are obtained.
5. Tighten lock nut on tension adjustment bolt, holding bolt in position with one wrench while tightening lock nut with second wrench.
6. Check pulley alignment on its mounting bracket to bring pulleys into alignment. If necessary tap motor mount bracket into position with soft hammer.
7. Retighten motor mount clamp nuts securely.

Replacement of Belts - Belt Drive Vehicles

1. **CAUTION: Disconnect both main battery leads to prevent accidental engagement of power while servicing unit.**
2. Loosen motor mount clamp nuts slightly.
3. Loosen motor adjusting bolt lock nut and turn adjusting bolt in until belts can be easily lifted from pulley grooves without prying or forcing. Remove old belts.
4. Install a full set of new belts of equal length. Replacement of only a part of the set will prevent obtaining proper tension of all belts. This will cause unequal division of load among the belts with abnormal wear as a result.
5. Adjust tension and alignment as described in preceding section.

PT 24Ø PWR-TRON  
(COVER REMOVED)



REAR COMPARTMENT

MAINTENANCE, SERVICE AND PARTS

POWER TRACTION

(BELT DRIVE IS STANDARD)  
SEE PAGE 7 THIS SECTION

Adjustment of Drive Chain Tension - Power Traction

1. CAUTION: Disconnect both main battery leads to prevent accidental engagement of power while servicing vehicle.
2. Tighten three motor mounts.
3. Loosen and unscrew each nut exactly one full turn.  
NOTE: This procedure is very important, for if the nuts are too loose or too tight, and error will result in the final adjustment which will seriously reduce the lift of the chain.
4. Loosen adjusting set screw lock nut. Using standard socket set screw wrench, turn set screw clockwise until tight. (If a torque wrench is available, tighten to 80" lbs. torque). Without a torque wrench, bear in mind that a standard socket set screw wrench is approximately 4" long. An average person will only be able to develop the required torque necessary if he tightens it as far as possible with his hands and does not use any extended handle on the wrench.
5. After developing the required torque, unscrew the adjusting screw exactly 2-1/2 turns. It is also very important to be exact on this adjustment.
6. Tighten locknut. DO NOT allow adjusting screw to move while tightening locknut.
7. Be certain that motor has moved all the way back and adjusting screw is in contact with back plate. If necessary, tap motor lightly to assure this condition.
8. Tighten three motor mount nuts securely.

Perform this adjustment procedure regularly as listed below to assure long and trouble free life from your "Power Traction Drive"

SCHEDULED ADJUSTMENT	AFTER	COMMENTS
1st Adjustment	100 Hours	New unit or after installing new chain
2nd Adjustment	Next 150 Hours	Normal running conditions
3rd Adjustment	Next 250 Hours	Normal running conditions
Thereafter	Every 400 Hours	Normal running conditions

MAINTENANCE PROCEDURES  
MECHANICAL DISC BRAKE SYSTEM

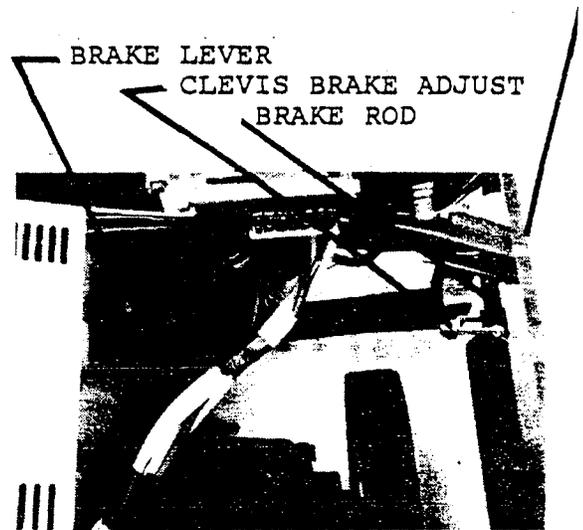
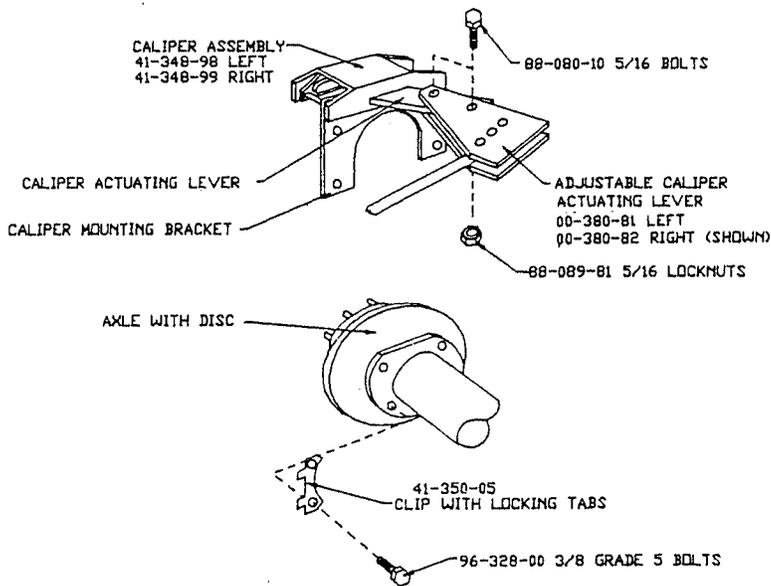
MAINTENANCE

The only maintenance required is periodic inspection and adjustment for brake pad lining wear.

NOTE: Normally, the only time the Taylor-Dunn mechanically actuated disc brake system needs adjustment is when pressure is applied to the service brake pedal and the pedal touches the vehicle floorboard without locking-up the wheels. In other words, the wheels cannot be locked through full brake application. Naturally, wheel lock-up is not a normal braking requirement and is only referred to as an example of when brake adjustment is required.

BRAKE ADJUSTMENT PROCEDURE

Adjust brakes using clevis. Remove pin in clevis arm. Turn clevis clockwise to tighten. Back off one turn. Return clevis arm to brake rod insert pin.



CALIPER ADJUSTMENT

BRAKE ADJUSTMENT, WHEN SCREW TRAVEL (CLEVIS ARM) HAS BEEN USED UP

When adjusting screws allow no more adjustment, remove pin, loosen adjustor then remove the outer 5/16" x 7/8" bolt from the caliper adjustable lever (both caliper adjustable levers). Loosen inner 5/16" bolts so that the caliper adjustable lever assembly can be moved to line up the #2 hole with outer hole in caliper actuating lever. Install 5/16" bolt and nut. Tighten both nuts securely. Repeat procedure on other caliper.

NOTE: As a matter of good maintenance practice, it is good practice to remove the brake pads for inspection prior to using hole #3 in the caliper adjustable lever. Pads should be thoroughly checked for unusual wear, etc. If inspection indicates less than 1/32" of lining material remaining, then all 4 pads must be replaced. (See next procedure for replacing disc pads.)

CAUTION: Never mix or cross pads from one wheel to another as accelerated wear-out of pad linings will occur. In addition, uneven braking action and damage to the rotor disc is probable.

MAINTENANCE PROCEDURES continued  
MECHANICAL DISC BRAKE SYSTEM continued

PROCEDURE FOR INSPECTING AND/OR REPLACING BRAKE PADS Part No. 41-348-70

1. Release park brake and block front wheels. Insure forward/reverse switch is in neutral and key turned to OFF.
2. Raise rear of vehicle and remove rear wheels (use safety stands).
3. Remove one (1) caliper bolt and sleeve from caliper body.
4. Carefully slide out disc pads.  
Note: Pads must be returned to original position in caliper. Note position before removal.
5. Examine pads for overall condition and wear. All pads must be replaced if any pad lining is worn to 1/32".
6. Reinstall original pads if inspection is satisfactory.
7. If inspection required replacement of pads, proceed to "NEW PAD Installation Procedure".
8. While holding both pads in proper position, re-insert bolt sleeve to caliper body and slide bolt through caliper body and sleeve. Tighten nut to 10 foot pounds of torque.
9. Perform same procedures on opposite caliper.
10. Replace wheels on vehicle.
11. Return to brake adjustment procedure.

NEW BRAKE PAD INSTALLATION PROCEDURE

1. Remove the outer 5/16 bolt from the caliper adjustable lever assembly and loosen the inner bolt.
2. Now move the caliper adjustable lever assembly so that the #1 hole lines up with the outer hole in the caliper actuating lever.
3. Tighten both 5/16 bolts.
4. Repeat procedure for other side.
5. Return to step #8, "Procedure for Inspecting and/or Replacing Disc Brake Pads".

SERVICE AND ADJUSTMENT  
HYDRAULIC BRAKE SYSTEM

The loss of brake pedal action may be due to a defective master cylinder. It can usually be detected by signs of fluid leakage at master cylinder or by the action of the brake pedal. When foot pedal pressure is applied you will feel the brakes engage, yet, the pedal will continue to travel downward. A ruptured hydraulic line or a defective wheel cylinder will produce the same action. You can determine the cause by the location of brake fluid leakage.

MASTER CYLINDER REPAIR OR REPLACE

The Master Cylinder is located behind the kick panel under the front seat 99-510-01.

1. Remove cotter pin, clevis pin, and remove push rod. (It will slide out of master cylinder socket).
2. Disconnect hydraulic line at cylinder.
3. Remove 2 holding bolts and lift master cylinder out of chassis.
4. Cylinder should be thoroughly cleaned.
5. Remove boot and locking ring.  
NOTE: Piston parts are under spring pressure, take care that they do not pop out when you remove lock ring.

MAINTENANCE PROCEDURES continued  
HYDRAULIC BRAKE SYSTEM continued

- . Remove piston and cup assembly.
7. Inspect cylinder wall. If scoring or roughness is present it must be removed with a fine hone.
8. Taking care that all parts are kept clean, install new (99-510-61) assembly kit. A diagram is furnished with each kit. It is also recommended that parts are coated with a small amount of brake fluid prior to assembly.
9. Replace lock ring and boot.
10. Install cylinder in chassis in reverse order to which it was removed.
11. ADJUST push rod by loosening locknut and shortening or lengthening the rod so that when brake pedal is fully raised the push rod should be within 1/16" of contacting piston socket. A good way to be certain is to remove clevis pin. While lightly holding rod against socket (DO NOT PUSH HARD ENOUGH TO MOVE PISTON) observe the alignment of clevis and hole. When correct you will have to pull rod approximately 1/16" out of socket to insert clevis pin.
12. Tighten locknut and install cotter pin.
13. Fill master cylinder to top with DOT #5 brake fluid or, if available, attach brake bleeder tank to master cylinder.
  - . When using bleeder tank, loosen air bleeder valve (located at each wheel cylinder), one at a time. Allow fluid to flow until air pockets and bubbles stop and a clear stream appears.

WHEN BLEEDER TANK IS NOT AVAILABLE

It is necessary to utilize 2 people to bleed brake system when bleeder tank is not available. One person will operate brake pedal and add fluid to master cylinder as needed. The other person will operate bleeder valves. While one person applies brake pedal pressure, loosen bleeder valve. Fluid and air will be forced out on the downward stroke of the pedal. Person operating pedal must hold it down at the end of its stroke while the other person closes bleeder valve. If pedal is raised while bleeder valve is open, air will be drawn back into the system. By coordinating the movements of the 2 people, air will be bled out by each downward stroke of the pedal. It is wise to refill master cylinder after every 3 or 4 strokes to ensure against any air being drawn in because of the reservoir level being too low. Usually 2 to 4 strokes per wheel cylinder is sufficient to remove air from system.

15. Allow vehicle to sit 15 minutes to stabilize. (Air bubbles can be trapped in silicone brake fluid and must be allowed to collect). Repeat step 2, one more time.
16. Remove brake bleeder tank if use. Fill master cylinder 3/8" to 1/2" of top and replace cover.

PWR-TRON 240, 350 AND 480

GENERAL

The PWR-TRON unit is readily accessible when the deck is raised. The PWR-TRON unit performs two functions; forward-reverse and acceleration via mechanical linkage to the foot pedal. You will notice the PWR-TRON unit is a transistorized supply that regulates the current fed from the battery through the accelerator module to provide necessary power to the motor. This gives the operator full control of the vehicle at all speeds and braking under all conditions. The R 3-80 has a PWR-TRON for 36 volt operation.

CIRCUITS AND OPERATION

There are two circuits included in the operation of the PWR-TRON, the control circuit and the power circuit.

The control circuit (light gauge wire) includes key switch, micro-switch, MS-1, potentiometer; R1, activated by the accelerator arm on back of accelerator module, the PWR-TRON solid state controller, forward reverse switch and solenoid panel.

The power circuit (heavy gauge wire) includes the batteries, forward reverse switch and motor.

The two circuits operate as follows:

CONTROL CIRCUIT

Forward operation. Turn key switch to "ON" position and forward-reverse switch to forward position, MS-1 is closed providing a current path to the forward solenoid coil and closing forward contact on the forward-reverse switch. As the accelerator is depressed, the potentiometer, R1 will increase the current, moving the vehicle forward.

Reverse operation. Turn key switch to "ON" position and forward-reverse switch to reverse position, MS-1 is closed providing a current path to the reverse solenoid coil and closing the reverse contact on the forward-reverse switch. As the accelerator is depressed, the potentiometer, R1, will increase the voltage, moving the vehicle in reverse.

POWER CIRCUIT

Forward operation. When the control circuit is energized and the solenoid contacts are closed, the current flow is then channeled through the PWR-TRON and then to the power wiring. Motor speed is controlled by voltage output from the PWR-TRON. The PWR-TRON is varied by the potentiometer, R1, in the control circuit.

Reverse operation. The same circuit is used as forward operation except the forward-reverse switch is moved to reverse current flow through the motor.

PWR-TRON 240, 350 & 480 continued

PWR-TRON 240, 350 & 480 PREVENTIVE MAINTENANCE

**WARNING:** BEFORE WORKING ON THE PWR-TRON UNITS OR ANY PART OF THE VEHICLE ELECTRICAL SYSTEM, DISCONNECT BOTH THE MAIN POSITIVE AND NEGATIVE BATTERY LEADS. PLACE THE FORWARD/REVERSE LEVER IN NEUTRAL, TURN OFF AND REMOVE. ALWAYS SET PARKING BRAKE.

No regular maintenance is required.

Be sure ignition key is on before depressing accelerator pedal. DO NOT depress pedal then turn on key. This is unsafe operation.

**CAUTION**

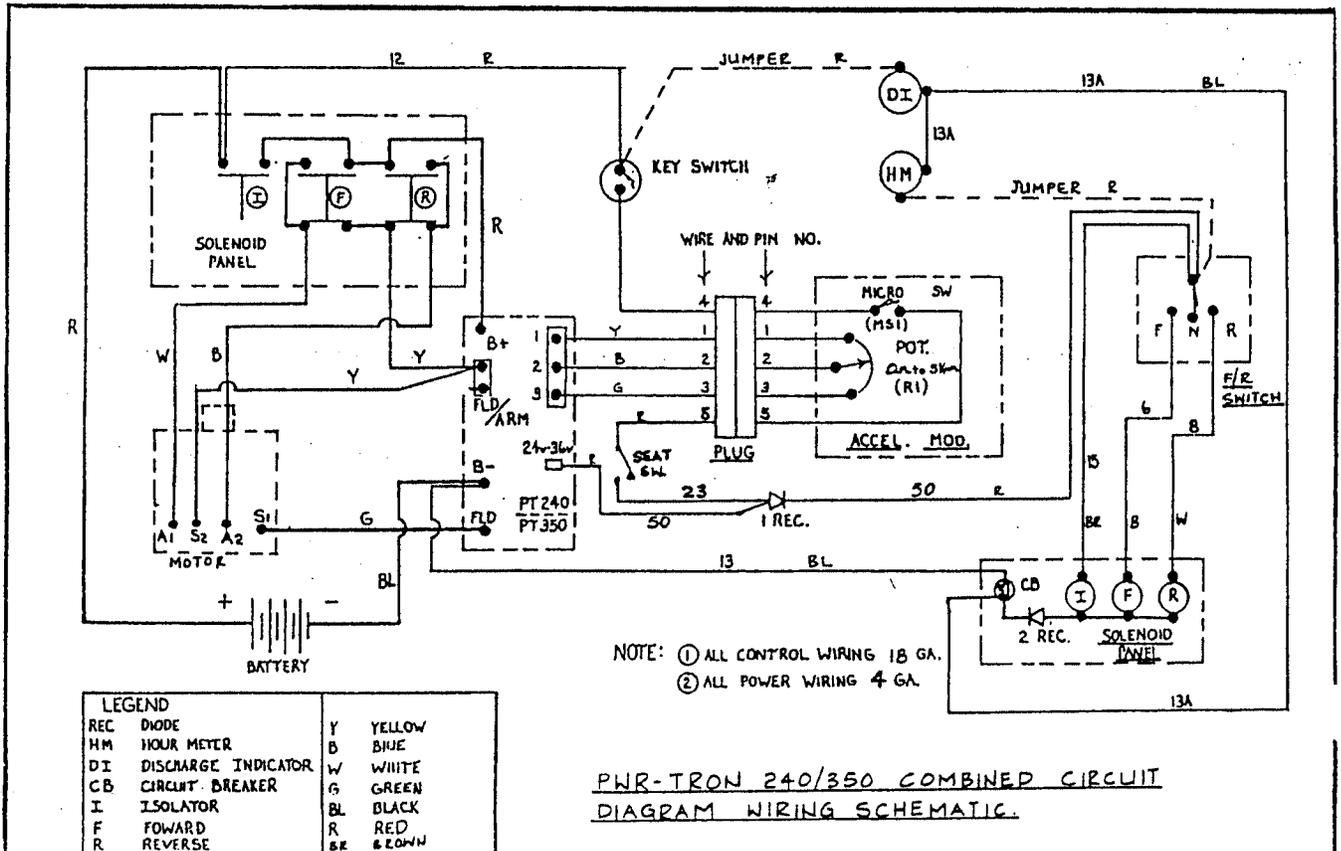
Do not steam clean or spray with water.

Make sure all wire connections are secure.

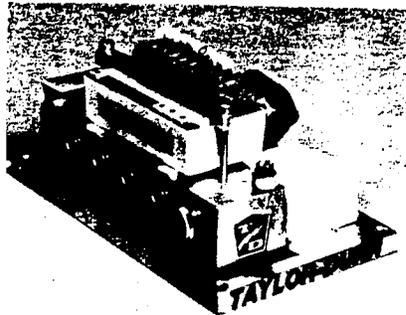
There are three modules as part of this system, solenoid panel, accelerator module and PWR-TRON module. These are all easily removable for replacement and service.

Only qualified service personnel should perform any replacement, adjustments or servicing of the PWR-TRON module, solenoid panel or the accelerator module. This will avoid the possibility of voiding your warranty on the PWR-TRON 240, 350 or 480.

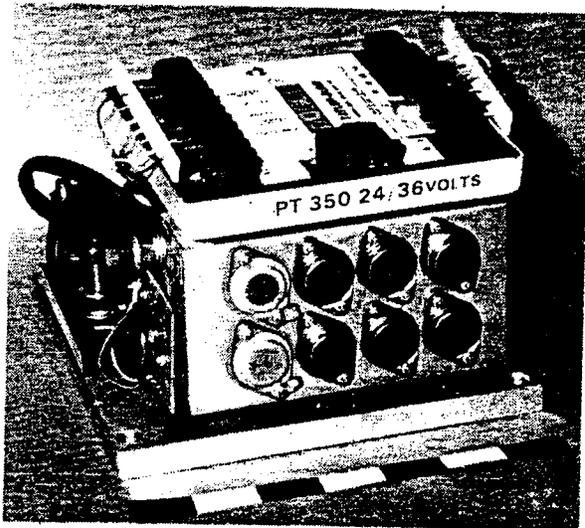
When returning vehicle to pre-service configuration make certain batteries are properly connected to avoid damage.



PWR-TRON 240, 350 & 480 continued



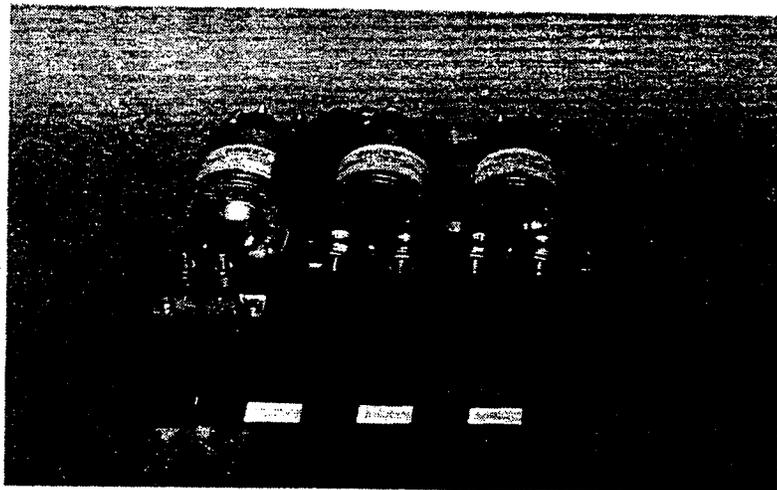
PT-240



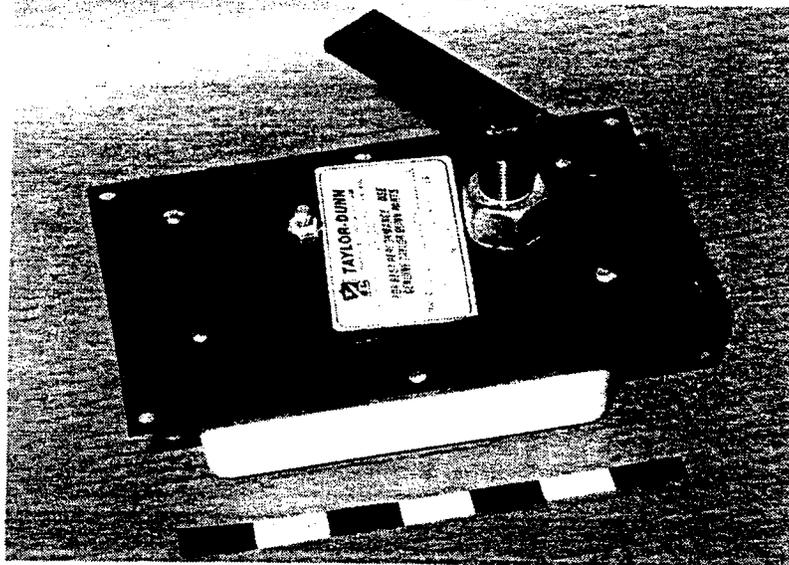
PWR-TRON SPEED CONTROLLERS  
PT-350



PT-480



SOLENOID PANEL ASSY 36V  
72-560-10



ACCELERATOR MODULE  
62-030-14

TROUBLE SHOOTING PROCEDURES

SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
<b>1. STEERING</b>		
a. Pull in one direction	<ol style="list-style-type: none"> <li>1. Unbalanced front tire pressure</li> <li>2. Bent or maladjusted tie rod</li> <li>3. Bent axle or spindle</li> </ol>	<ol style="list-style-type: none"> <li>1. Check and adjust inflation pressures</li> <li>2. Repair, replace or adjust tie rod</li> <li>3. Repair or replace</li> </ol>
b. Hard steering	<ol style="list-style-type: none"> <li>1. Low tire pressure</li> <li>2. Dry pivot points in steering linkage</li> <li>3. Bent or maladjusted king pin</li> </ol>	<ol style="list-style-type: none"> <li>1. Inflate to 16-20 lbs.</li> <li>2. Lubricate - see lubrication diagram</li> <li>3. Repair, replace or adjust king pin</li> </ol>
c. Sloppy or loose	<ol style="list-style-type: none"> <li>1. Loose wheel bearing</li> <li>2. Loose or worn ball joints</li> <li>3. Worn king pin bushings or king pins</li> <li>4. Excess backlash in steering gear box</li> <li>5. Worn idler arm bushings</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust</li> <li>2. Tighten or replace ball joints</li> <li>3. Replace bushings or pins and bushings</li> <li>4. Adjust backlash</li> <li>5. Replace arm and bushings</li> </ol>
<b>2. BRAKES</b>		
a. Poor brakes	<ol style="list-style-type: none"> <li>1. Worn disc brake pads</li> <li>2. Brake lining wet or oily</li> <li>3. Bind in brake linkage</li> <li>4. Incorrect linkage adjustment</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust for lining wear or replace if less than .020 thick</li> <li>2. Clean &amp; dry or replace if oily</li> <li>3. Loosen, and readjust brake linkage</li> <li>4. Adjust linkage</li> </ol>
b. No brakes Pedal reaches floor board	<ol style="list-style-type: none"> <li>1. Incorrect linkage adjustment</li> <li>2. Broken linkage</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust linkage</li> <li>2. Repair or replace broken part</li> </ol>
c. Excessive or grabbing brakes	<ol style="list-style-type: none"> <li>1. Small amount of oil on lining</li> <li>2. Scored or rough brake disc rotor</li> <li>3. Incorrect linkage adjustment</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean lining</li> <li>2. Replace disc rotor (axle weldment)</li> <li>3. Adjust linkage</li> </ol>
<b>3. ELECTRICAL</b>		
a. Vehicle goes Rev/Fwd instead of Fwd/Rev	<ol style="list-style-type: none"> <li>1. Motor Terminals</li> </ol>	<ol style="list-style-type: none"> <li>1. (See combined circuit in PWR-TRON section) Route white wire from forward switch to motor A1 and blue wire from reverse switch to motor A2</li> </ol>
b. Vehicle shudders and shakes	<ol style="list-style-type: none"> <li>2. Battery voltage too low</li> </ol>	<ol style="list-style-type: none"> <li>2. Check batteries. Recharge or replace</li> </ol>
c. No output from control	<ol style="list-style-type: none"> <li>3. Batteries not connected or improperly connected</li> </ol>	<ol style="list-style-type: none"> <li>3. See diagram in battery section. Check key is on</li> </ol>

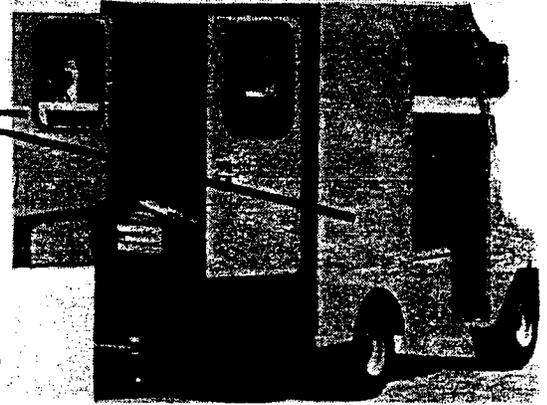
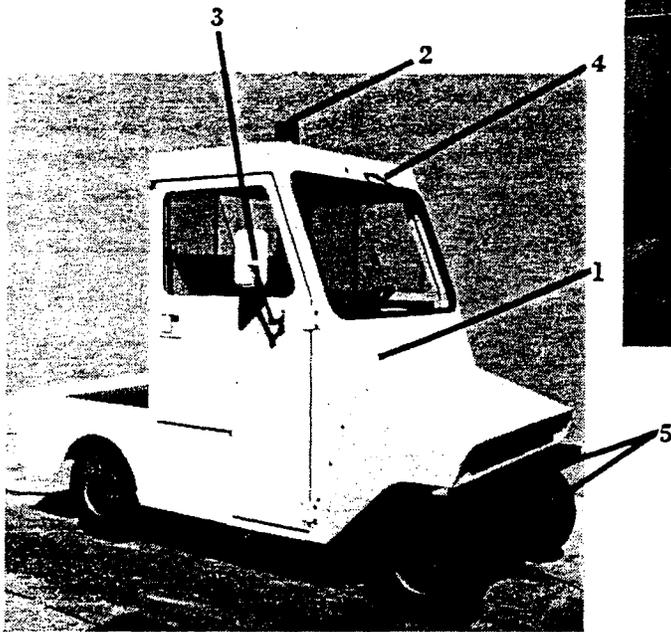
OPTIONS AND KITS

GENERAL: This section illustrates the many additional options to increase the usage of your vehicle. Some of these kits can be added with basic tools, ie; side mirrors, rotating beacon turn signals and seat belts. All other kits should be installed at an authorized Taylor-Dunn dealership. This section is only a guide for various options that will aid you in improving the operation and serviceability of your vehicle.

BODY AND TRIM  
(OPTIONAL) FIELD KITS

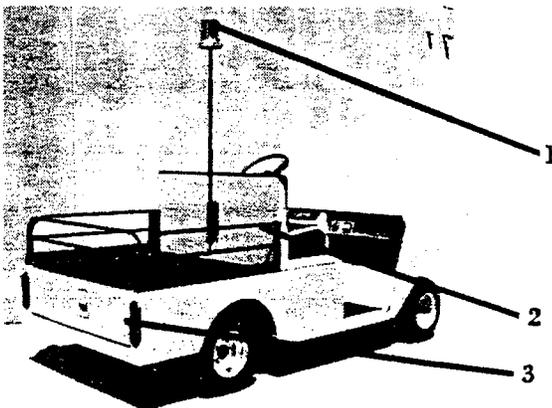
The following field kits are supplied as an additional option for customizing your R 3-8Ø. See illustration of major kit packages, next page. All metal parts are orange. All other colors are special.

KIT NO.	DESCRIPTION
9Ø-1Ø9-62	Second seat
97-8Ø4-61	Pintle hitch
97-8Ø8-61	Automatic coupling hitch
91-12Ø-62	Surrey top
91-34Ø-63	Kit, tool box
9Ø-3ØØ-6Ø	Kit, side and end rails
9Ø-3ØØ-61	Kit, side rails
74-Ø1Ø-61	Windshield Wiper
91-Ø11-1Ø	Kit, cab (all metal) with windshield and rear window, less doors
1-Ø1Ø-68	Kit, door (all metal) with sliding glass window, left hand
1-Ø1Ø-69	Kit, door (all metal) with sliding glass window, right hand
74-141-61	Turn signals, front and rear
9Ø-16Ø-61	Seat belts
73-ØØ5-6Ø	Reverse warning beeper
72-Ø23-61	Rotating amber light, pole
72-Ø23-62	Rotating amber light, cab
92-2Ø2-6Ø	Mirror
52-Ø25-6Ø	PWR-PLUS 36V

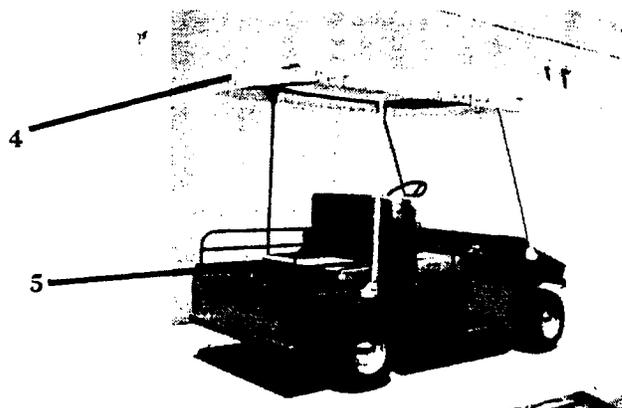


KIT, ALL METAL CAB

ID. NO.	PART NO.	DESCRIPTION	QTY.
1	91-011-61	KIT, METAL CAB ASSEMBLY WITH DOORS, GLASS	1
	91-011-60	KIT, METAL CAB WITHOUT DOORS, WITH GLASS	1
	91-010-68	LEFT HAND KIT, DOOR INCLUDES SLIDING GLASS WINDOW	1
	91-010-69	RIGHT HAND KIT, DOOR INCLUDES SLIDING GLASS WINDOW	1
2.	72-020-62	KIT, ROTATING BEACON	1
3.	92-202-60	KIT, REAR VIEW MIRROR, FITS RIGHT OR LEFT SIDE	1
4.	74-010-61	KIT, WINDSHIELD WIPER	1
5.	01-380-60	KIT, BUMPER WITH SPLASH GUARD	1
6.	74-141-61	KIT, TURN SIGNAL	1
	60-160-61	KIT, SEAT BELT, NOT SHOWN	1
7.	91-322-60	KIT, CARGO BOX WITH REAR DOORS	1



R 3-80 WITH ROTATING BEACON  
CARGO RAILS AND TOOL BOX



R 3-80 WITH SURREY TOP  
AND FOLDAWAY SECOND SEAT

I.D. NO.	PART NO.	DESCRIPTION	QTY.
1	72-023-61	KIT, ROTATING BEACON ON POLE	1
2	90-300-60	KIT, CARGO RAILS	1
3	91-340-63	KIT, TOOL BOX W/LOCKING DOORS	1
4	91-120-62	KIT, SURREY TOP WITH SUPPORT POSTS	1
5.	90-109-62	KIT, FOLD DOWN 2ND SEAT	1

PARTS ORDERING PROCEDURE

Parts may be purchased from your local authorized Taylor-Dunn dealer. When ordering parts, be sure to specify the complete model number and serial number of this unit. Also specify the full Taylor-Dunn part number, description of part and quantity of parts required. When ordering parts for the drive motor, also include the specifications found on the motor name plate. Be sure to give complete shipping and billing address on all orders. Example:

1 - Part Number - 86-501-98 - Ball joint (left hand thread)

1 - Set of 2 - Part Number - 70-005-00 - Brush Assembly G.E. motor, 36 Volt

Above parts for model B 2-10 truck, beginning with serial number 79010

Parts ordered under warranty must be placed with your authorized Taylor-Dunn dealer. Be sure to include original invoice number, date of shipment of vehicle, and vehicle serial number.

NOTE: On contracts with National Federal Government Agencies, Defense General Supply Agency, and United States Post Office Department, orders for all warranty parts must be placed directly with the Taylor-Dunn factory in Anaheim, California.

TAYLOR-DUNN MANUFACTURING COMPANY  
2114 West Ball Road  
Anaheim, CA 92804

Phone: 714-956-4040  
Telex: 65-5393

FOR ADDITIONAL PARTS INFORMATION, ORDER PART NUMBER MR-380-99.

SUPPLEMENT OPERATORS MANUAL R 3-80

PART NUMBER: M8-001-00

RHEOSTAT INSTALLED VEHICLE

R 3-80

This supplement is a guide for those vehicles equipped with the 6 speed rheostat option.

The 6 speed rheostat (option) is a speed controller that supplants the standard PWR-TRON. Like the PWR-TRON (see wiring schematic) it also consists of 3 basic modules: Rheostat, Solenoid Panel Assembly and an Accelerator that mounts directly to the foot pedal. There is a "Power-On" light (reminder that circuitry is operable) on the instrument panel that is activated by the key switch.

## MAINTENANCE PROCEDURES

### RHEOSTAT SPEED CONTROL

#### GENERAL FEATURES

The rheostat controls the speed of your vehicle through the use of coils of nichrome resistance wire. With this type of resistance control, you can use approximately the same amount of power from batteries in low speed as you do in high speed. The flat copper bars and movable arm are the major parts in the rheostat. With recommended adjustment the rheostat will give many months of trouble free use. The space between bars should be cleaned with a piece of wood or plastic or steamed cleaned if possible on a monthly basis. When the arm is worn down to 1/8" thickness, replace arm and power bars.

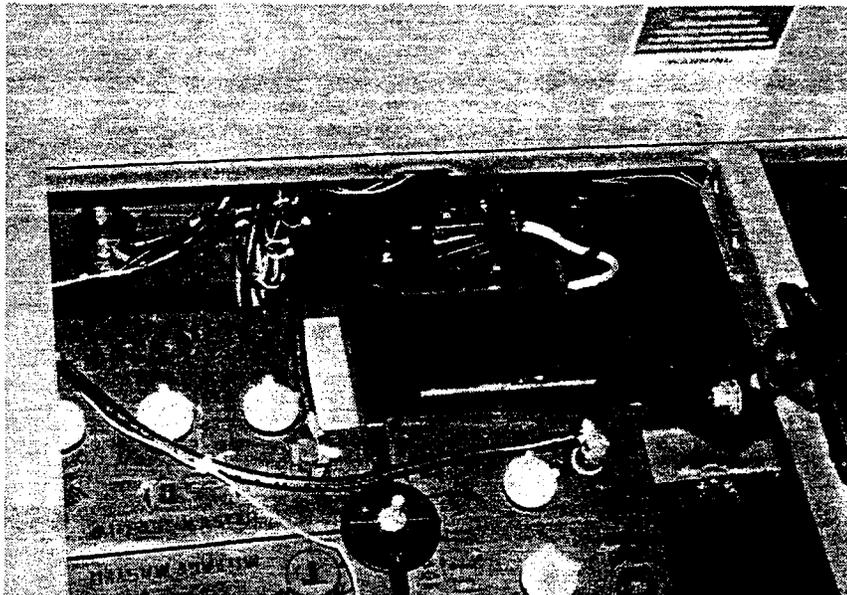
#### ADJUSTMENT

Refer to adjustment in this section for proper adjustment and service procedures.

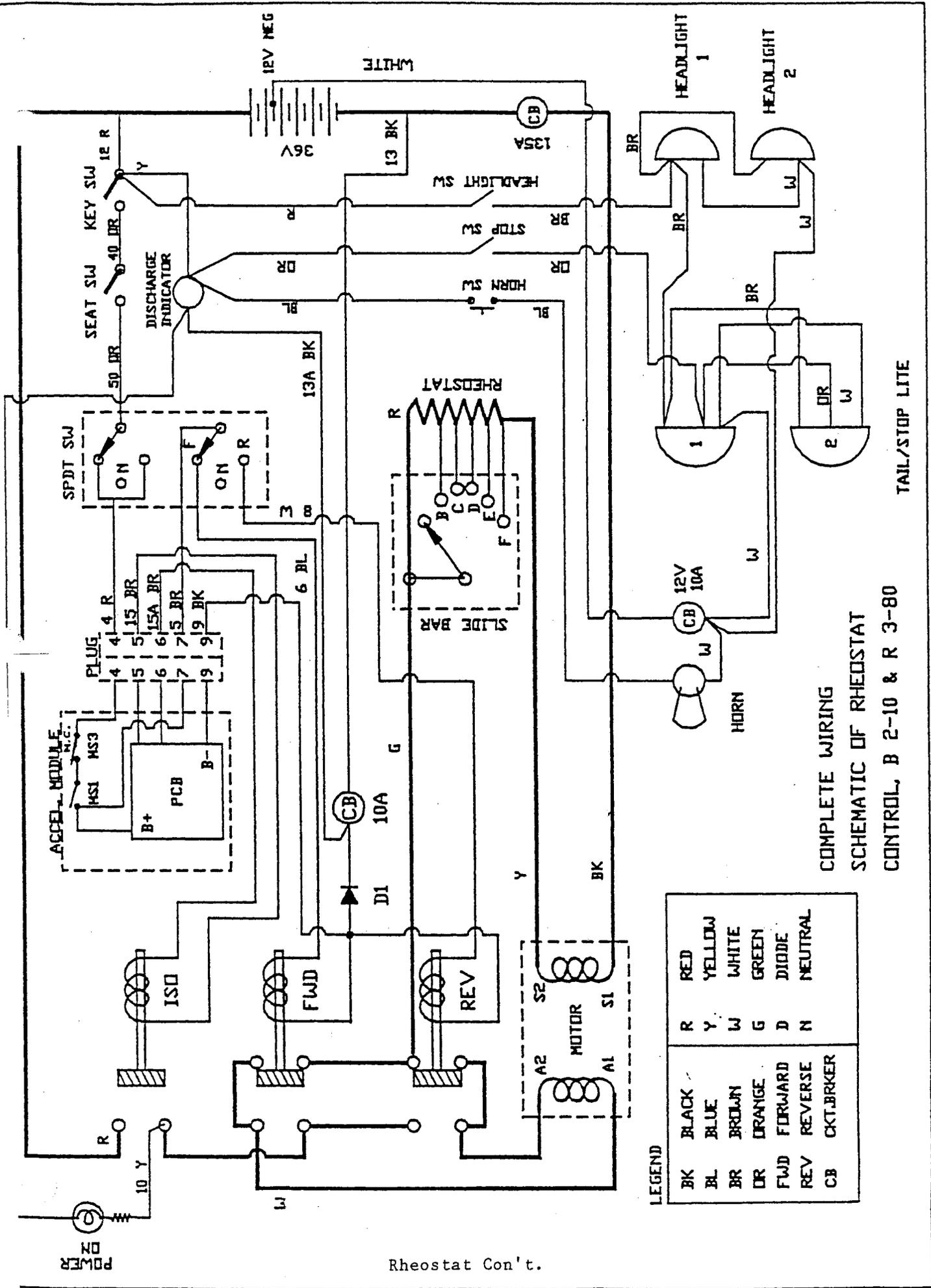
It is recommended that all terminal connections be checked and tightened at least once a month. If a terminal bolt or wire becomes loose, sufficient heat will be generated to cause permanent damage to the connection. Care should also be taken at each inspection to ensure that proper contact is maintained between arm and power bars.

Arm and accelerator linkage should work freely allowing return spring to always return arm to neutral bar when accelerator is released.

#### RHEOSTAT (FRONT SEAT REMOVED)



Rheostat Continued in Back of Book



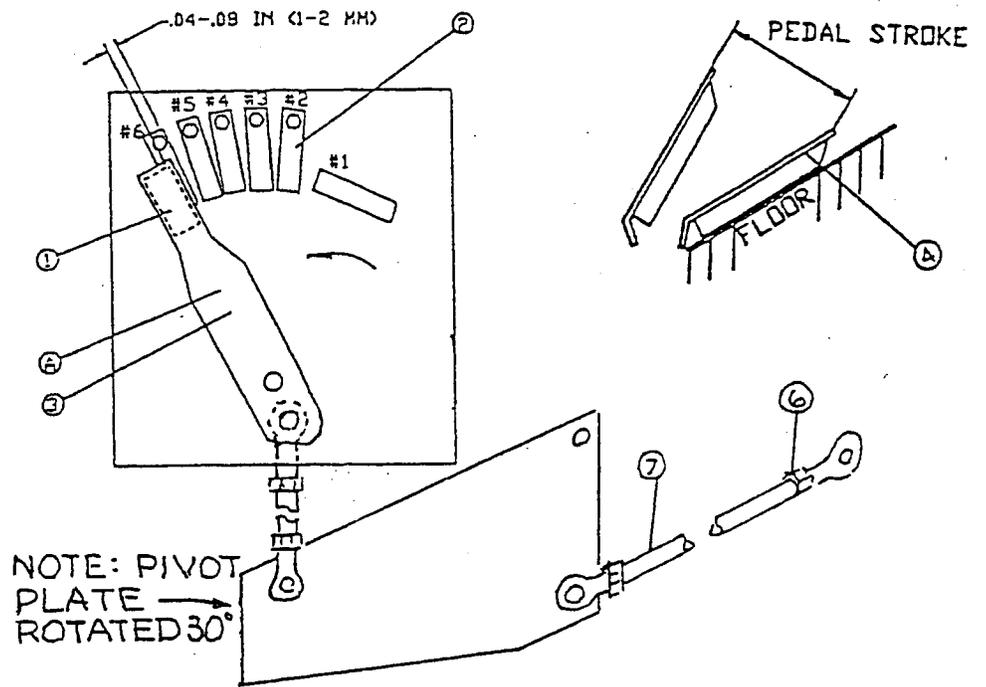
Rheostat Con't.

LEGEND

BK	BLACK	RED
BL	BLUE	YELLOW
BR	BROWN	WHITE
DR	ORANGE	GREEN
FWD	FORWARD	DIODE
REV	REVERSE	NEUTRAL
CB	CKT.BKR	

COMPLETE WIRING  
SCHEMATIC OF RHEOSTAT  
CONTROL, B 2-10 & R 3-80

TAIL/STOP LITE



- |                           |                      |                    |
|---------------------------|----------------------|--------------------|
| 1. MOVING CONTACT         | 4. ACCELERATOR PEDAL | 7. ACCELERATOR ROD |
| 2. FIXED CONTACTS (#1-#6) | 5. ADJUSTING NUT     |                    |
| 3. MOVING ARM             | 6. ADJUSTING NUT     |                    |

#### RHEOSTAT ADJUSTMENT

**WARNING:** Before working on the rheostat, disconnect both the main positive and negative battery leads. Place the forward/reverse switch in neutral. Turn off ignition and remove key. Set parking brake.

#### ADJUSTMENT

1. Slowly, depress the pedal 4, to full extent.
  2. Check that (on rheostat) moving contact 1, is located in position A (within the tolerance shown B) in respect to the fixed contact, #6.
- IF NOT WITHIN THE TOLERANCE:
1. Loosen the two locknuts, 5 and 6.
  2. Adjust the movable contact, 1 to the correct position shown above, pedal should be to the floor.
  3. Secure locknuts, 5 and 6. Adjustment is complete.