

OPERATION AND MAINTENANCE MANUAL WITH PARTS LIST

MODEL:	GT 3-70, GT 3-71
SERIAL NO. :	66670 & UP
YEAR:	05/81 - 12/85
MANUAL NO. :	MG-370-07

- 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 -

- A. 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.

Definitions of the three terms are as follows:

WARNING - There is a potential for injury to yourself or 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.

- B. Before operating your Taylor-Dunn golf car, it is your responsibility to read, understand and follow the safety and operating instructions contained in this manual to help insure 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 on the golf course.
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. Vehicle is restricted to two occupants.
 4. Occupants must remain seated while vehicle is in motion.
 5. Arms, legs and feet must be kept inside while vehicle is in motion.
 6. Slow down when making a turn.
 7. Drive slowly straight up and down slopes.
 8. Set parking brake before leaving vehicle.
 9. Forward/Reverse lever 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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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 their being tight.
- f. If vehicle is equipped with hydraulic brakes, check hydraulic lines for evidence of damage.
- g. Check brake fluid level in master cylinder.
- h. Examine entire vehicle for damage such as dents or cracks.
- i. Check operation of controls to see that they are working freely.

NOTE: Occasionally you may receive a "Power Traction" equipped vehicle with the oil level below the oil level point. This is a perfectly normal situation and is not harmful to the unit. It occurs during vehicle transit when oil drains from the chain case into the drive axle housing. A short period of normal operation will restore the chain case oil level to the proper point. To hurry the process, drive the vehicle in reverse for a few minutes then proceed with normal operation.

Upon completion of the visual inspection, an operational test should be made after reading the remainder of Section A and operating instructions contained in Section B.

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 by local authorities, and need also to be aware of the vehicle operating characteristics and safety recommendations of the manufacturer, to assist them in exercising the judgment 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 the service and maintenance processes, to assist them in applying sensible judgment to those processes.

STEERING This vehicle has a very small minimum turning radius and high ratio steering gear. These are essential for low effort steering at slow speeds.

WARNING: These characteristics, so desirable 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 down-hill, and avoid traveling across the face of a hill unless there is a cart path. Avoid sharp turns, even at slow speeds, while on a hill.

SPEED WARNING: 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. Do not exceed, under any conditions, the vehicle maximum design speed of 15 MPH.

CONTROLS Bring the vehicle to a complete standstill before operating the forward/reverse switch to change direction of travel. Operation of this control while the vehicle is in motion can result in complete loss of power and brakes. Do not use the accelerator to hold the vehicle at a standstill on an incline. This can cause complete power loss. Use only the brakes to hold the vehicle at rest while on a hill.

BRAKES 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.

INSPECTION, SAFETY AND INTRODUCTION
SAFETY
(CONT)

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

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

WARNING:

1. This electric vehicle does not "idle" noisily, is never "out of gear", and is set into motion whenever the battery to motor circuit is closed, intentionally or otherwise. Whenever practical, disconnect one or both battery leads to avoid unintentional starting of the motor during servicing and maintenance.
2. Batteries emit gases 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 on Page 1 and 3 of Section J8.
3. When performing maintenance on any part of the vehicle electrical system or when working in close proximity to EM Switch, batteries, etc., disconnect main battery leads, place Forward/Reverse switch in neutral and remove key from keylock in dash panel to prevent accidental movement of vehicle.

CAUTION:

1. 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 SHORTCIRCUIT. 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 as a golf cart for carrying two people and two golf bags. It is designed to be driven in and around the golf course, both on grass and paved surfaces. It is not designed to travel in excess of 15 MPH under any conditions. Speeds in excess of this can cause motor damage and unstable steering.

MODEL NUMBER

This manual covers GT-370-10 and GT-371-10 with Mechanical Disc Brakes starting with units produced in May, 1981.

SERIAL NUMBER

This Serial Number of your unit is stamped into the top of the left main frame tubing member, just below the deck board on the left side of the cart. The Model Number and Serial Number are on a name plate riveted to the kick panel below the passenger seat. In ordering parts or referring to your unit, please use these numbers. Replacement parts can be purchased directly from distributors located across the United States.

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 after carefully reading the instructions contained in this manual.

STEERING

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

PARKING BRAKE

To engage parking brake, step firmly on park brake pedal. To release park brake pedal, pull brake pedal release knob and the park brake pedal will return to the full release or off position.

WARNING:

Never leave the vehicle on a hill or incline without applying the foot operated park brake.

SERVICE BRAKE

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. Depressing the pedal applies the braking action. The greater the effort applied to the pedal with your foot, the greater the braking action to your vehicle. Removing your foot from the pedal allows immediate release of the braking action.

FORWARD-REVERSE SWITCH

The forward-reverse switch is located to the right of, and below the drivers seat and can be operated only when the key is in the unlocked position. To place the handle in the FORWARD position, move it downward. To place the handle in the REVERSE position, move it upward.

CAUTION:

The forward-reverse switch serves the same purpose as the transmission 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.

Shifting while in motion, especially near top speed, causes great strain to your vehicle and will eventually cause severe damage.

ACCELERATOR PEDAL

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 in 4 steps. When driving your vehicle you will be able to feel the 4 steps of power, with 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 (Optional)

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

LIGHT SWITCH (Optional)

The switch for operating headlights and taillights is located on the switch panel to the left of the steering column. The ON-OFF positions are labeled.

BATTERY CHARGER

Refer to Section J8 for proper instructions to operate your battery charger.

SPECIAL ACCESSORIES

Refer to the appropriate section of this manual for separate operating instructions pertaining to any special feature or accessory your vehicle may have. .

OPERATING YOUR VEHICLE

CAUTION: Before operating vehicle, apply service brake as necessary to preclude unexpected movement of vehicle and release the foot operated park brake. Pull Park Brake release knob and observe that the park brake pedal returns to the full release or off position.

To put your vehicle into operation, unlock forward/reverse switch by turning keyed lock counterclockwise. Select direction you wish to travel by moving the handle of forward/reverse switch into position. 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. For greatest efficiency, it is recommended that you travel at the fastest speed that you can safely maintain. You will find that your vehicle will consume almost as much current at a low speed as it does at higher speeds. Therefore, without taking any unnecessary risk traveling at the faster speed will deliver more miles per battery charge than continual use in the lower speed range.

CAUTION: Do not "hold" vehicle at a standstill on a hill or incline using your accelerator only. Continued "stalled" condition as described will damage motor and electrical controls. Use either your service brake or park brake to hold the vehicle on a hill safely.

WARNING: When you leave your vehicle, always place forward/reverse switch in neutral position. Set park brake to prevent vehicle from rolling free, and lock and remove key.

Drive safely and enjoy your Taylor-Dunn Vehicle.

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 services 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, disconnect main battery leads, place Forward/Reverse switch in neutral, turn key to off position and remove from switch. Set Parking Brake.

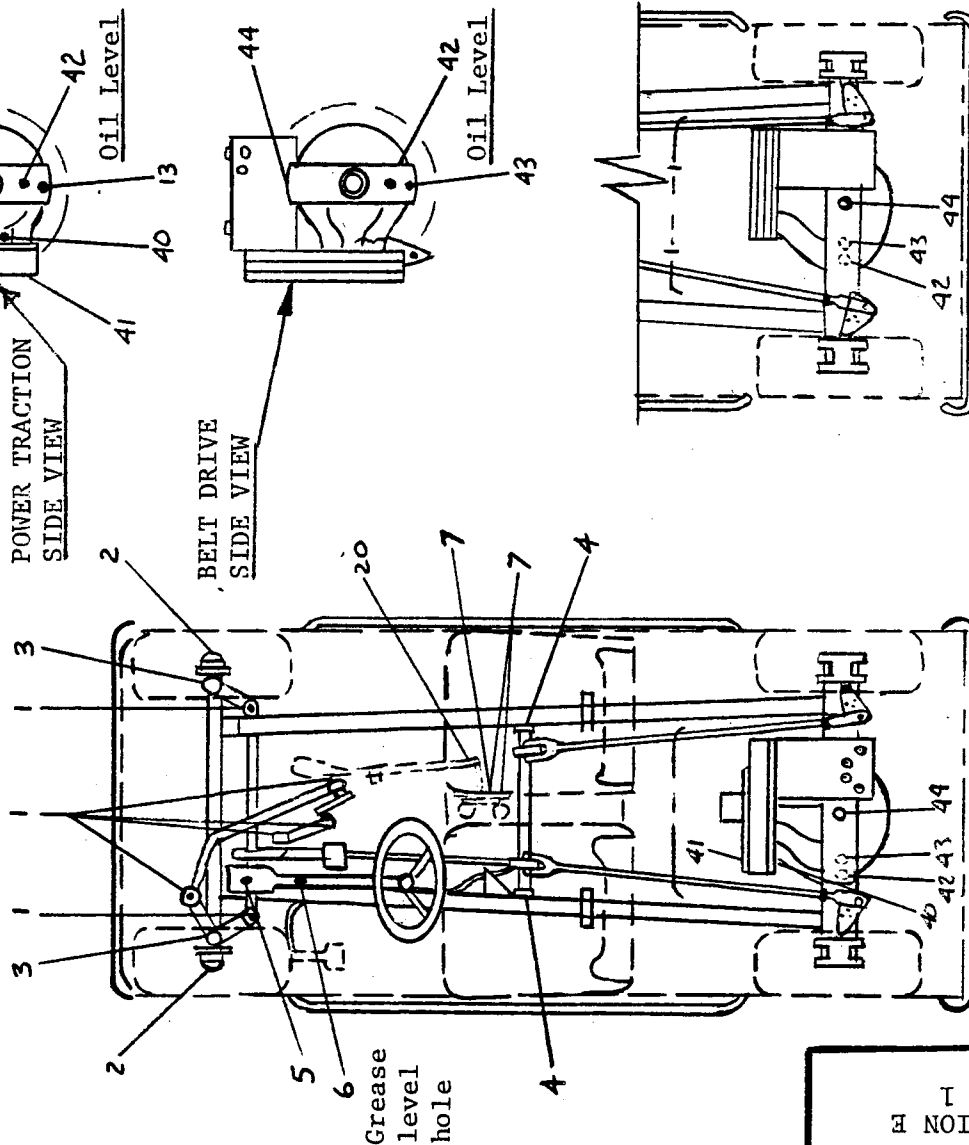
MAINTENANCE SERVICE	REFER SECTION	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	EVERY YEAR
Check & record Sp. gravity & water level of each cell. Fill, as necessary, using distilled water (See Chart in Section J8)	J8	X	X	X	X
* Examine battery terminal connections Clean and tighten as necessary, but not while batteries are being charged.	J8	X	X	X	X
* Apply lube to speed control sliding contact area with <u>electrically non-conductive applicator</u> . Use T-D Grease 94-421-00 or a quality hi-temp grease with a 500° min. drop point.	J6 & E	X	X	X	X
<p><u>NOTE:</u> *Switch may require cleaning and lubrication more often than once a month depending on vehicle operating environment. See Sect. J6 for additional information.</p>					
* Check tire pressure (18-22PSI)	J1	X	X	X	X
Adjust belt tension	J2	X	X	X	X
Adjust motor mount & chain (See Chart, Section J2)	J2		X	X	X
* Lubricate steering linkage with grease (8 Zerk fittings)	E			X	X
* Lubricate front wheel bearings (2 Zerk fittings)	E			X	X
* Lubricate linkage pivot points and suspension points with all purpose engine oil.	E		X	X	X
Wash off batteries with water, (Use soda if necessary)	J8		X	X	X
Check all wire connections. Be sure they are all clean and tight but never tighten while batteries are charging.			X	X	X
* Items related to safety recommendations					

WARNING: Never use a substitute grease that contains graphite, metal particles or is electrically conductive.

MAINTENANCE SERVICE	REFER SECTION	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	EVERY YEAR
Check Disc brake pad linings for wear, adjust as necessary	J3			X	X
Drain differential and refill with SAE 20 oil (refer to lubrication diagram)	J2 & E				3 Years

MASTER CONTROL SWITCH

Lubricate Monthly. Apply lube to Speed Control Contact area with electrically non-conductive applicator. Use T-D Grease 94-421-00 or a quality hi-temp grease with a 500 F. Min Drop Point.



SECTION E
PAGE 1

SECTION E
PAGE 1

A. PRESSURE	NO. OF PLACES	FREQUENCY
GUN GREASE	6	3 Months
1. Ball Joints	2	3 Months
2. Front Wheel Hub	2	3 Months
3. Front Wheel	2	3 Months
4. Brake Linkage	2	3 Months
X-Shaft	2	3 Months
Steering Gear Box	1	1 year
Fill to Grease Level Hole.		
B. T-D GREASE 94-421-00		
7. Master Control Switch	4	1 Month or sooner
C. ALL PURPOSE ENGINE OIL		
20 Linkage Pivot Points	6	1 Month
SAE 20 OIL-AXLE & DIFFERENTIAL		
42. Level Check	1	(See Below)
Change Oil - Power Traction		3 year
a. Remove Drain Plugs 41 & 43, Level Plugs 40 and 42, Fill Plug 44.		
b. Drain Oil, Replace 41 & 43.		
c. Add Oil by 44 to level of 42.		
d. Add oil by 40 to 1/2" below 40.		
e. Replace 40, 42, 44		
*** Change Oil - Belt Drive		3 year
a. Remove Drain Plug 43, Level Plug 42 and fill Plug 44		
b. Drain oil, replace 43		
c. Add oil by 44 to level of 42		
d. Replace 44		
** Check level whenever oil leakage is evident.		
*** Or after service work performed		
* Items related to safety recommendations.		
E. POWDERED GRAPHITE		
Key Lock		1 year

DO NOT SCALE TOL: FRAC± DEC± ANG±

3-10-81

Taylor-Dunn

2114 WEST BALL ROAD
ANAHEIM, CALIFORNIA

92803

LUBRICATION DIAGRAM

SCALE: NONE

DWN BY: J.W.H.

CHKD BY:

FIGURE 1

SECTION E

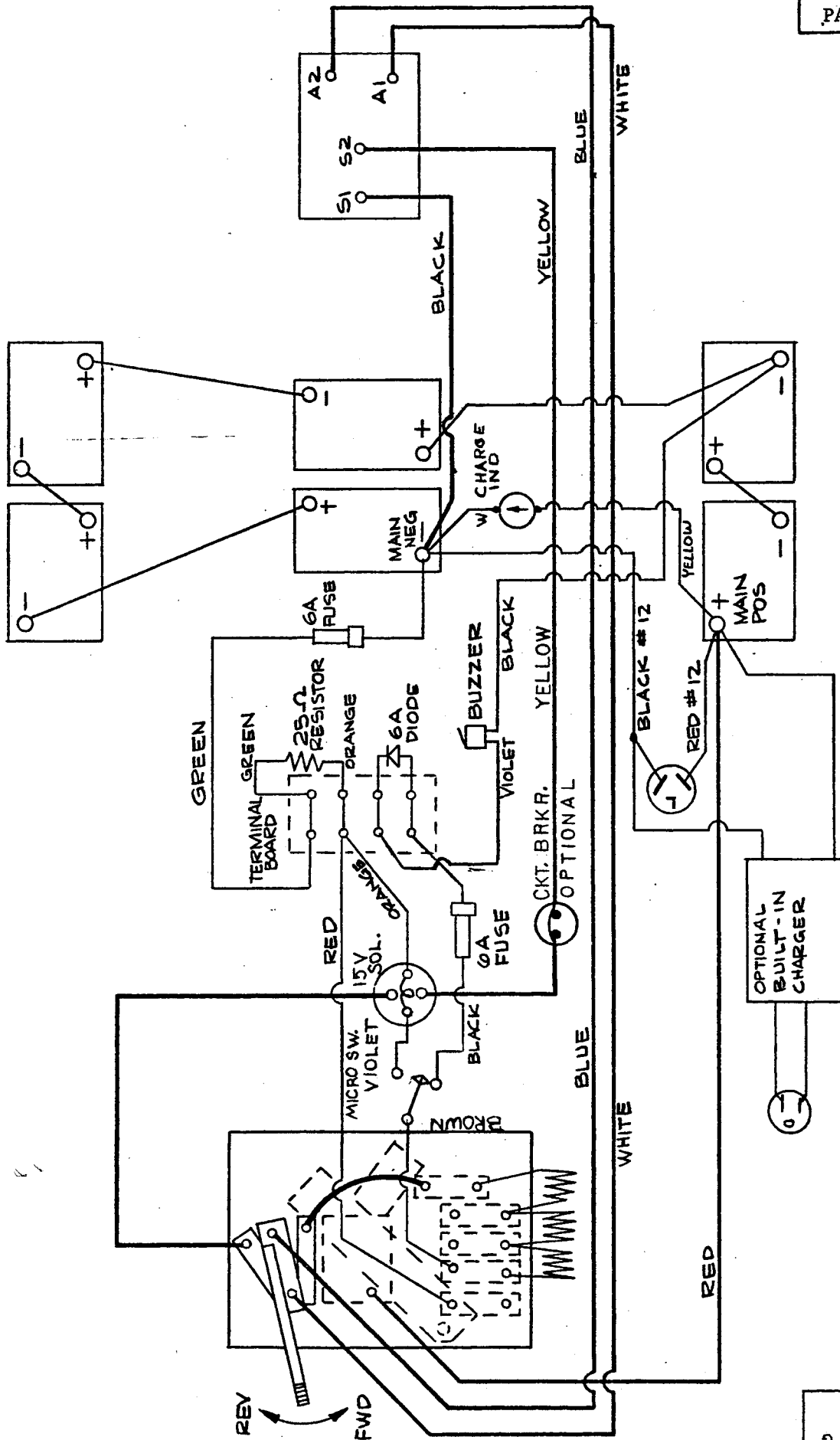
SHEET OF

TROUBLE SHOOTING PROCEDURES

SYMPTON	PROBABLE CAUSE	CORRECTIVE ACTION
1. <u>STEERING</u> (SECTIONS E & J1)		
a. Pull in one direction	1. Unbalanced front tire pressure 2. Bent or maladjusted tie rod 3. Bent axle or spindle	1. Check and adjust inflation pressures 2. Repair, replace or adjust tie rod 3. Repair or replace
b. Hard Steering	1. Low tire pressure 2. Dry pivot points in steering linkage 3. Bent or maladjusted king pin	1. Inflate to 16-20 lbs. 2. Lubricate - See Section E 3. Repair, replace, or adjust king pin
c. Sloppy or Loose	1. Loose wheel bearing 2. Loose or worn ball joints 3. Worn king pin bushings or king pins 4. Excess backlash in steering gear box 5. Worn idler arm bushings	1. Adjust 2. Tighten or replace ball joints - Section J1 3. Replace bushings or pins and bushings 4. Adjust backlash 5. Replace arm and bushings
2. <u>DRIVE AXLE</u> (SECTION J2)		
a. Erratic Operation	1. Faulty Power System 2. Badly worn drive sprockets or belts	1. See "Power System" 2. Replace sprockets or belts
b. Lack of Power Slow Operating	1. Faulty Power System 2. (Belt Drive only) Belt slipping or missing 3. Parking Brake not completely released 4. Incorrect brake adjustment, brake dragging 5. Defective or maladjusted wheel bearing 6. Bind or drag in primary drive or differential	1. See "Power System" 2. Adjust belt tension or replace belts 3. Release Parking Brake 4. Adjust brake system 5. Adjust or replace wheel bearing 6. Check and repair primary drive or differential
c. Abnormal Noise in drive train	1. Defective motor bearing 2. Loose motor mount 3. Worn or broken sprockets or pulleys 4. Worn gears or bearings in differential 5. Defective Axle Bearing 6. Worn or bent axle 7. Loose wheel lug nuts 8. Defective spring eye bushings	1. Replace motor bearing 2. Tighten motor mount 3. Replace sprockets or pulleys 4. Check and replace gears or bearings 5. Replace Bearing 6. Replace axle 7. Tighten lug nuts 8. Replace bushings

SYMPTON	PROBABLE CAUSE	CORRECTIVE ACTION
2. DRIVE AXLE (CONTD) (SECTION J2)		
d. Oil Leaks in wheel bearing area	<ol style="list-style-type: none"> 1. Wheel bearing seal defective 2. Wheel bearing gasket defective. 3. Axle retainer plate not tightened 4. Drive axle filled above proper oil level 	<ol style="list-style-type: none"> 1. Replace seal 2. Replace gasket 3. Tighten axle retainer plate 4. Drain oil to proper level
f. Oil Leaks in gear case or motor area	<ol style="list-style-type: none"> 1. Defective gear case cover gasket 2. Motor Mount "O" Ring defective or missing 3. Defective motor bearing oil seal 	<ol style="list-style-type: none"> 1. Replace gasket 2. Install "O" ring seal 3. Replace oil seal
3. BRAKES (SECTION J3)		
a. Poor Brakes	<ol style="list-style-type: none"> 1. Worn Disc brake pads 2. Brake lining wet or oily 3. Bind in brake linkage 4. Incorrect linkage adjustment 	<ol style="list-style-type: none"> 1. Adjust for lining wear or replace if less than .020 thick 2. Clean & dry or replace if oily 3. Loosen, and readjust brake linkage 4. Adjust linkage
b. No Brakes: Pedal reaches floor board	<ol style="list-style-type: none"> 1. Incorrect linkage adjustment 2. Broken linkage 	<ol style="list-style-type: none"> 1. Adjust linkage 2. Repair or replace broken part
c. Excessive or grabbing brakes	<ol style="list-style-type: none"> 1. Small amount of oil on lining 2. Scored or rough brake Disc Rotor 3. Incorrect Linkage Adj. 	<ol style="list-style-type: none"> 1. Clean lining 2. Replace Disc Rotor (Axle Weldment) 3. Adjust linkage
4. POWER SYSTEM (SECTIONS J6,J8,G).		
a. No Power to Motor in forward or reverse	<ol style="list-style-type: none"> 1. Batteries discharged or defective 2. EM Master Control Switch 3. Forward-Reverse Switch maladjusted or worn 4. Motor Brushes not contacting armature 5. Loose or broken wire 6. Motor defective 	<ol style="list-style-type: none"> 1. Recharge or replace batteries 2. Adjust or repair switch, refer to Sect. J6 3. Adjust or repair forward/reverse contacts 4. Adjust or replace brushes 5. Tighten or replace wire. 6. Repair or replace motor


SYMPTOM	PROBABLE CAUSE	CORRECTIVE ACTION
4. <u>POWER SYSTEM</u> (CONTD) SECTIONS J6,J8,G)		
b. Erratic Operation	<ol style="list-style-type: none"> 1. Batteries discharged 2. EM Master Control Switch 3. Forward/Reverse Switch maladjusted or worn 4. Loose wire or wires 5. Motor brushes worn 	<ol style="list-style-type: none"> 1. Recharge batteries 2. Adjust or repair switch. Refer to Sect. J6 3. Adjust or repair Forward/Reverse contacts 4. Tighten 5. Replace brushes
c. Vehicle range	<ol style="list-style-type: none"> 1. Batteries not fully charged. 2. Batteries nearing end of normal life 3. Charger output not sufficient 4. Charger defective 	<ol style="list-style-type: none"> 1. Recharge batteries. Review charging practice 2. Replace batteries 3. Adjust transformer taps 4. Repair or replace charger
d. No power in one direction and full power in other direction without depressing accelerator	<ol style="list-style-type: none"> 1. Switching and motor circuit not properly connected 	<ol style="list-style-type: none"> 1. Correct power circuit wiring to diagrams in Section G.



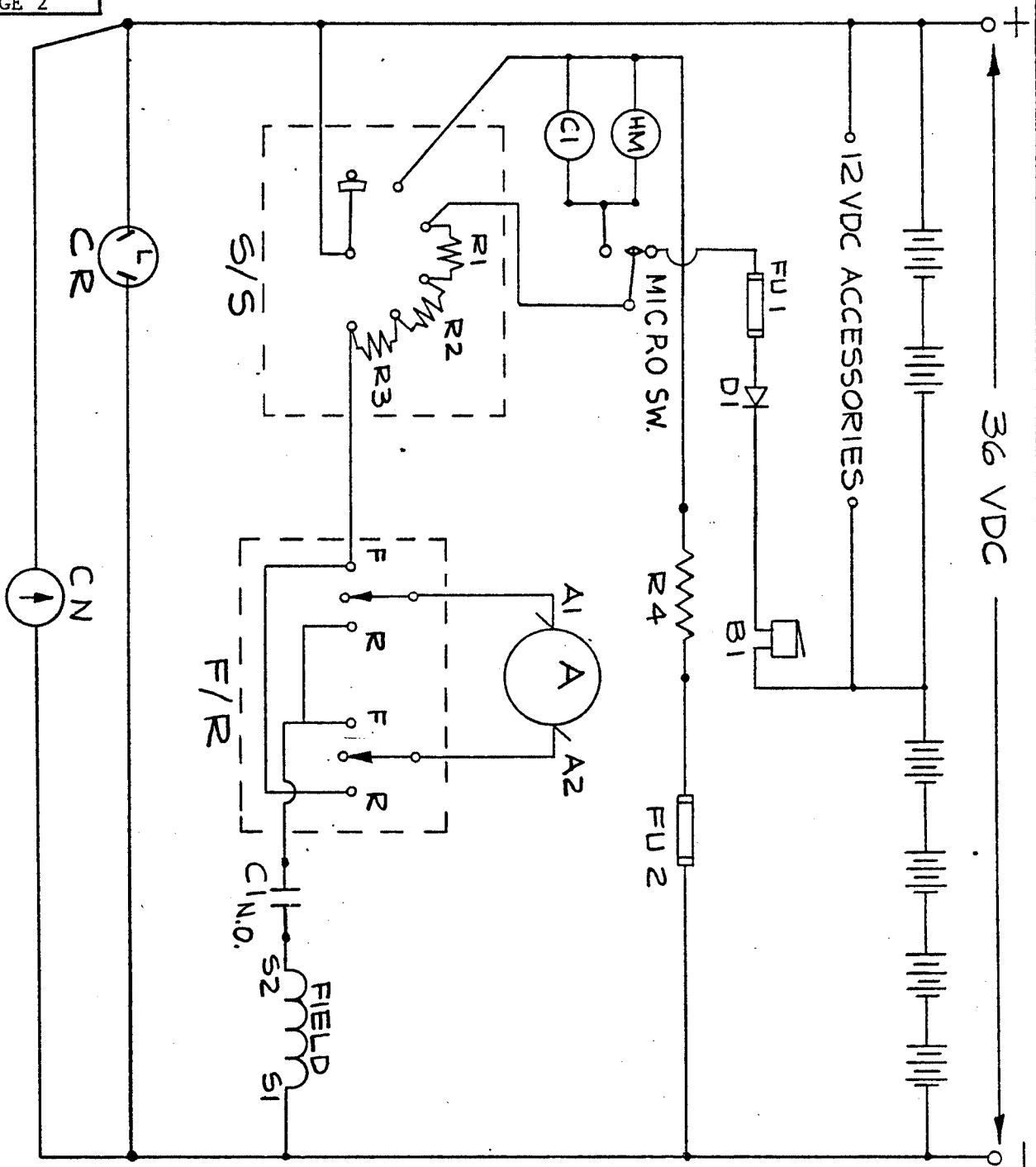
EM MASTER CONTROL SWITCH WIRING DIAGRAM

FIGURE 2A
SECTION G

DRAWN BY K.W.
DATE 4/2/81



TAYLOR DUNN MFG. CO.
2114 West Ball Rd.
Anaheim, Calif.



LEGEND

A	MOTOR ARMATURE
B1	BUZZER
C1	SOLENOID/CONTACTOR
D1	DIODE
FPSW	FOOT PARK BRAKE SWITCH
FU1	FUSE, BUZZER
FU2	FUSE, SOLENOID
R1-R3	RESISTOR, POWER
R4	RESISTOR, SOLENOID
CR	CHARGER RECEPTACLE
HM	HOOR METER (OPTIONAL)
F/R	FORWARD/REVERSE SWITCH
S/S	SPEED SWITCH
CN	CHARGE IND





ACCESSORY WIRING DIAGRAM

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FIGURE 2C
SECTION G

DRAWN BY J.M.
DATE 12-13-79

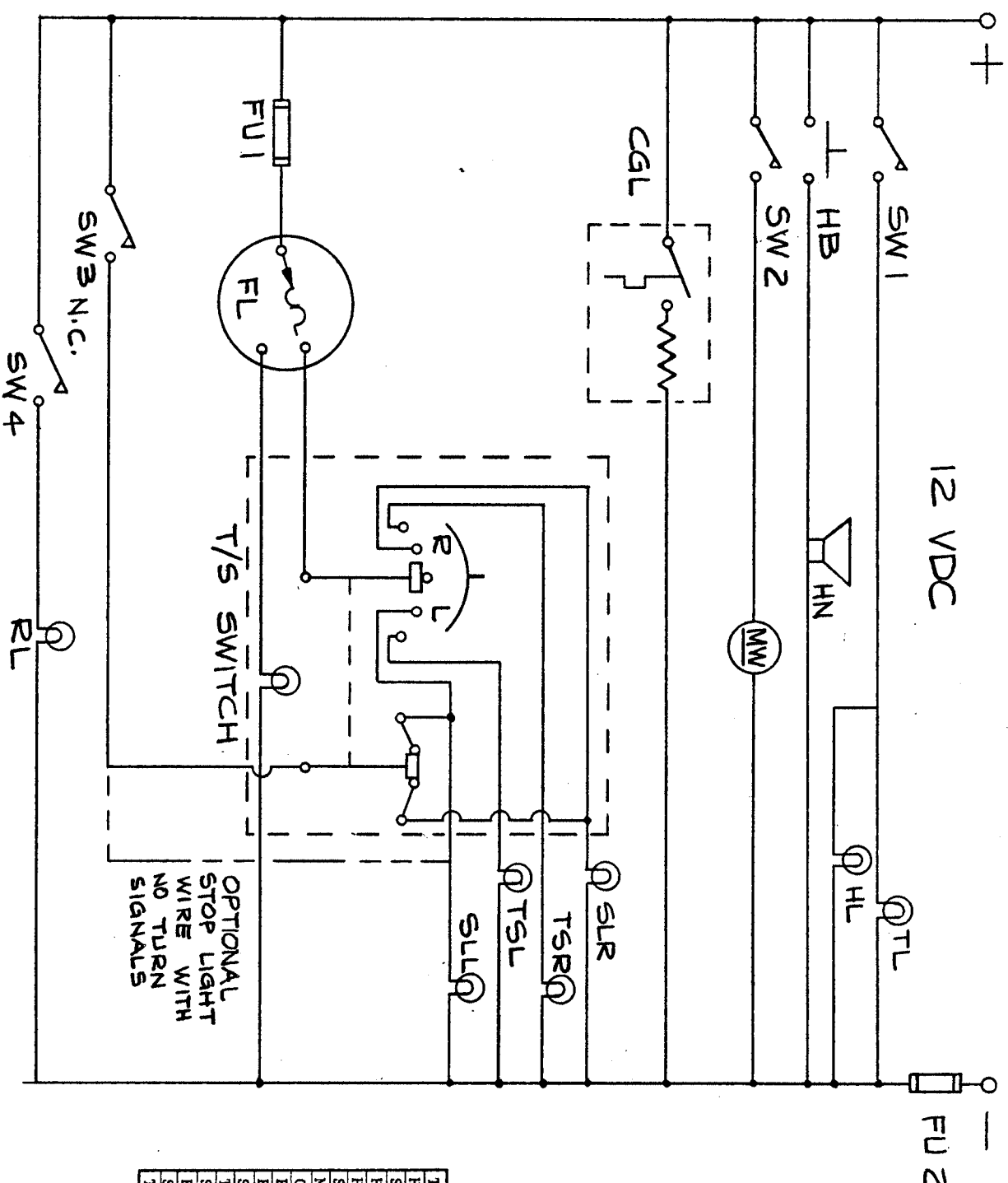
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100	100	100

SCALE

DRAWN BY J.M.

SECTION G
PAGE 3



LEGEND

TL	TAIL LIGHT
HL	HEAD LIGHT
SW1	SWITCH (LIGHT)
HB	HORN BUTTON
HN	HORN
SW2	SWITCH (WINDSHIELD WIPER)
WM	MOTOR (WIPER)
CGL	CIGARETTE LIGHTER
FU1	FUSE (TURN SIGNALS)
FL	FLASHER
SLR/L	STOP LIGHTS, RIGHT & LEFT
TSR/L	TURN INDICATORS, RIGHT & LEFT
SW3	SWITCH (STOP LIGHTS)
RL	ROTATING LIGHT
SW4	SWITCH, (ROTATING LIGHT)
T/S	TURN SIGNAL SWITCH

SECTION G
PAGE 4

SCALE
DRAWN BY J.M.
DATE 8-18-80

FIGURE 2D
SECTION G

ACCESSORY WIRING SCHEMATIC



TAYLOR DUNN MFG. CO.
2114 West Ball Rd.
Anaheim, Calif.

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 the unit. Also specify the full Taylor-Dunn part number, description of part, and quantity of parts required. You will find a complete listing of part numbers and descriptions in the following pages of this manual. When ordering parts for the drive motor, also include the specifications found on the motor nameplate. 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 4 - Part number 70-124-00 - Motor Brushes for Baldor Motor, 3½ H.P., 36 Volt, Specification Number 28-1408-11704

Above parts for Model 1248 B Truck, Serial Number 15039.

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

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

SUGGESTED SPARE PARTS LIST

FIG. I.D. NO.	T-D PART NO.	DESCRIPTION	NO. OF CARTS		
			1-20	21-50	50-up

REFER TO FIGURE 4 - FRONT AXLE, WHEELS, AND STEERING

4-68	45-338-00	Oil Seal for 1" Bearing	1	2	4
4-72	97-236-00	Lug Nut - ½" NF	0	10	10
4-78	13-746-00	Tire and Demountable Wheel, 18 x 8 x 8, 4 Ply	1	2	4
4-84	11-041-00	Tube for 18 x 850 x 8 or 18 x 950 x 8 Tubeless Tire (Optional)	1	2	4

REFER TO FIGURE - 5 DRIVE AXLE ASSEMBLY FOR VEHICLES WITH EITHER POWER TRACTION OR BELT DRIVE

5-3	41-997-00	Drain and Level Plug (1/8" Pipe)	2	2	2
5-11	41-151-10	Assembly, Rear Axle with Bearing and Gasket Less Oil Seal	0	1	1
(NOT SHOWN)	97-236-00	Lug Nut, ½" NF	5	10	10

REFER TO FIGURE 5 - DRIVE AXLE ASSEMBLY FOR VEHICLES WITH POWER TRACTION ONLY

5-71	8 0-703-00	O-Ring, Motor Mount Seal	1	2	2
5-59	45-002-00	Gasket, Chain Case Cover	1	2	4
5-62	30-508-20	Chain, 36" Long, Use with 80 Tooth	1	2	3
5-62	30-507-20	Chain, 30-3/4" Long, Use with 59 Tooth Sprocket	1	2	3

REFER TO FIGURE 5 - DRIVE AXLE ASSEMBLY FOR VEHICLES WITH BELT DRIVE ONLY

5-79	30-620-00	Belt, 3V400	4	8	12
(NOT SHOWN)	45-341-00	Seal, Oil, Drive Pinion, Belt Drive	1	2	3

REFER TO FIGURE 5M - D.C. MOTOR

70-049-00	Motor 1.5/2 HP - 4 Terminals 5BC48JB550 or 5BC48JB726	0	0	1
70-054-00	Motor 2.25/3.5 HP - 4 Terminals 5BC49JB305	0	0	1
70-101-00	Brushes for G.E. Motor Models 5BC48JB503, 5BC48JB550, 5BC49JB305- 4 per motor	4	8	16
45-506-00	Oil Seal, Motor	0	1	2
80-504-00	Ball Bearing, G.E. Motor, Pulley End	0	1	1
80-200-00	Ball Bearing, G.E. Motor, Commutator End	0	1	1

SUGGESTED SPARE PARTS LIST
(CONTD)

FIG. I.D. NO.	T-D PART NO.	DESCRIPTION	NO. OF CARTS		
			1-20	21-50	50-up

REFER TO FIGURE 6 - MECHANICAL DISC BRAKES & LINKAGE

6-6	98-201-10	Rubber Pad, Park Brake Pedal	1	2	3
6-21	98-200-00	Rubber Pad, Service Brake Pedal	1	2	3
6-58	41-348-70	Pad, Disc Brake	4	8	12

REFER TO FIGURE 9 - EM MASTER CONTROL SWITCH & LINKAGE

9-0	61-845-45	Master Control Switch Assembly Complete	0	1	2
9-2	61-831-10	Power Bar w/Countersunk Holes	1	2	2
9-3	61-831-12	Power Bar w/notch	1	2	5
9-4	61-831-13	Power Bar	3	6	15
9-6	61-831-20	Speed Contact Bar	1	2	2
9-7	61-840-00	Forward/Reverse Power Bar	1	2	4
9-9	61-846-50	Rotor Board	1	2	4
9-11	61-841-00	Handle	1	2	4
9-12	71-030-58	Contact Button	2	4	4
9-13	61-849-50	Contact Button	2	4	6
9-14	61-849-55	Rotor Arm	0	1	2
9-15	88-102-11	Neutral Button (3/8 x 1 Carriage Bolt)	1	2	4
9-18	78-212-63	Resistor Coil #5 Wire - 6 Turns	1	1	2
9-20	78-212-51	Resistor Coil #9 Wire - 10 Turns	1	1	2
9-23	97-170-00	Washer, Insulated	2	41	8
9-24	32-212-50	Plastic Bushing 1/4 I.D. x 1/4 Long	2	4	8
9-25	96-300-09	Bronze Bolt	1	2	4
9-32	78-212-62	Resistor Coil #8 Wire - 8 Turns	1	1	2
9-54	96-302-01	Screw, Bronze 5/16 N.C. x 1, Hex Head	1	2	4

REFER TO FIGURE 11 - BODY AND TRIM PARTS

11-14	91-402-00	Accessory Tray	1	2	4
11-15	91-405-00	Ash Tray, Glass	2	4	8
11-32	92-001-00	Wheel Cover Chrome, 6"	2	2	2

SUGGESTED SPARE PARTS LIST
(CONTD)

FIG. I.D. NO.	T-D PART NO.	DESCRIPTION	NO. OF CARTS		
			1-20	21-50	50-up

PARTS NOT ILLUSTRATED

94-400-00	Mirror Glaze (For Cleaning Plastic Windows - 8 Oz.)	1	1	1
76-002-00	Charging Plug, 30 Amp, 3 Prong	3	6	8
76-012-00	Charging Receptacle, 3 Prong, 30 Amp	3	6	8
77-200-00	Hydrometer (To Check Battery Charge)	2	2	4
77-201-00	Battery Filler	1	1	1
79-320-00	Charger, 36V, 20 Amp, Automatic with clock (portable)	0	1	1
79-333-00	Charger, 36V, 30 Amp, Transistorized (Portable)	0	1	1
79-819-00	Fuse, 30 Amp, Screw Type	10	20	20
75-231-00	Battery Jumper, #6 Wire 10-1/4" Long (3 per cart)			
75-234-00	Battery Jumper, #6 Wire 18-1/4" Long (2 per cart)			

MAINTENANCE PROCEDURES
FRONT AXLE, STEERING AND TIRES
REFER TO FIGURE 4

Axle

Your front axle and wheel assembly consist of an axle mounted on 2 leaf springs with automotive spindles, steering worm, and steering linkage. It has been designed for rugged dependable service with little maintenance requirements, other than lubrication and an occasional check of all nuts and bolts for tightness. Your wheels revolve on Timken Roller Bearings and the spindles are mounted with heavy kingpins.

The steering idler rotates on self lubricating bearings mounted on a corrosion resistant shaft. No lubrication is necessary. Should the bearings become worn, they can easily be replaced.

Zerk type grease fittings have been provided to insure proper amounts of lubricant reaching wear points.

It is recommended that you follow the maintenance guide and lubrication diagrams for normal maintenance of the assembly. They are located in Sections D and E of this manual.

The maintenance guide is set up for average use. If the vehicle is subject to long hours of running and heavy loads the frequency of lubrication and service should be increased accordingly.

Refer to the service and adjustment Section J1 of this manual for guidance when performing major repairs and adjustments.

Steering and Suspension

The steering worm gear box and steering linkage are similar to that used on autos. They require very little attention.

Refer to maintenance guide and lubrication diagrams (Sections D & E) for normal care.

If service and adjustments are required, refer to appropriate section of this manual.

When performing underbody front end maintenance, check spring shackle bolts and U-bolts, and tighten if necessary. This will assure good steering control and minimum wear.

Tire Care

Tire pressure is governed by how you want your vehicle to ride and the terrain upon which it is most commonly used. Slightly lower pressure will assist traction on soft terrain without undue wear.

The tire pressure chart below assist you to determine the correct tire pressures for your needs. The higher range of pressures are recommended for heavy loads:

18 x 8.50 x 8 4 Ply 18 to 22 lbs.

18 x 9.50 x 8 4 Ply 18 to 22 lbs.

CAUTION: Do not over inflate tires. This will promote increased wear. Under inflated tires on hard surfaces also promotes wear and should be avoided. Over inflation can be detected by observing the tread wear depth over a period of time and will show up as greater reduction of tread depth in center portion of tread when compared with tread depth near tire edge.

SERVICE AND ADJUSTMENT
FRONT AXLE, STEERING AND TIRES
REFER TO FIGURE 4

Remove and Install Wheel Hub: Adjust Bearings

1. Remove wheel cover.
2. Remove dust cap.
3. Remove cotter pin and unscrew spindle nut.
4. Remove outer washer and bearing.
5. Remove wheel, tire, and hub assembly.
6. Before re-assembly, thoroughly clean the bearings, spindle, and hub assembly. Inspect bearings for wear or damage. Examine inner seal. Replace damaged or worn parts.
7. Generously pack bearings with wheel bearing grease.
8. Reassemble in reverse order. Adjust wheel bearings before installing cotter pin.
9. Adjust wheel bearings by tightening spindle nut until bearing drag barely occurs, then back off spindle nut approximately 1/4 turn. Wheel should turn freely without noticeable bearing end play.
10. Install cotter pin, dust cap and wheel cover.
11. Wheel hub has one zerk fitting for periodic lubrication of bearings without disassembling hub. Refer to Lube Chart in Section E.

Remove and Install King Pin Bushings

1. Remove wheel and hub from spindle. See preceding subsection.
2. Remove ball joints from steering arms. Remove cotter pin and nut, rap stud sharply with soft hammer, or soft block and regular hammer, to loosen tapered stud from steering arm.
3. Remove 7/8 lock nut which retains spindle and steering arm assembly to kingpin.
4. Remove spindle and steering arm assembly from kingpin.
5. Press bushings from spindle and steering arm assembly.
6. Thoroughly clean bushing housing and kingpin before installing new bushings.
7. Press bushings into sleeve. It may be necessary to ream the bushings after they are installed in the sleeve, because of slight distortion which may occur during the process of pressing them into place. If proper press and reamer are not available, most automotive supply houses and repair shops have capacity to perform this service.
8. Reassemble in reverse order. Tighten ball joint clamps securely. Lubricate bushings and kingpin through grease fitting. Adjust wheel bearings as described in preceding subsection. Align front end as described in sub-section titled "Align Front End: Adjust Toe In".

Align Front End: Adjust Toe In

1. Caster and camber are set at the factory, and do not require adjustment. To adjust toe-in, raise front end of vehicle off the ground.
2. With a pencil, make a mark around center of tread of tire by holding pencil point against tire while turning wheel. Mark both front tires.
3. Lower vehicle to ground. Loosen tie-rod sleeve clamps at each end of tie-rod, so that adjusting sleeve can be turned.
4. With wheels in straight forward direction, measure the distance between pencil lines at the front of the tires, and at the rear of the tires.
5. 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 of the tires.
6. Tighten the adjusting sleeve clamp nuts securely, taking care to avoid changing the position of the adjusting sleeve.

Replace Ball Joint:

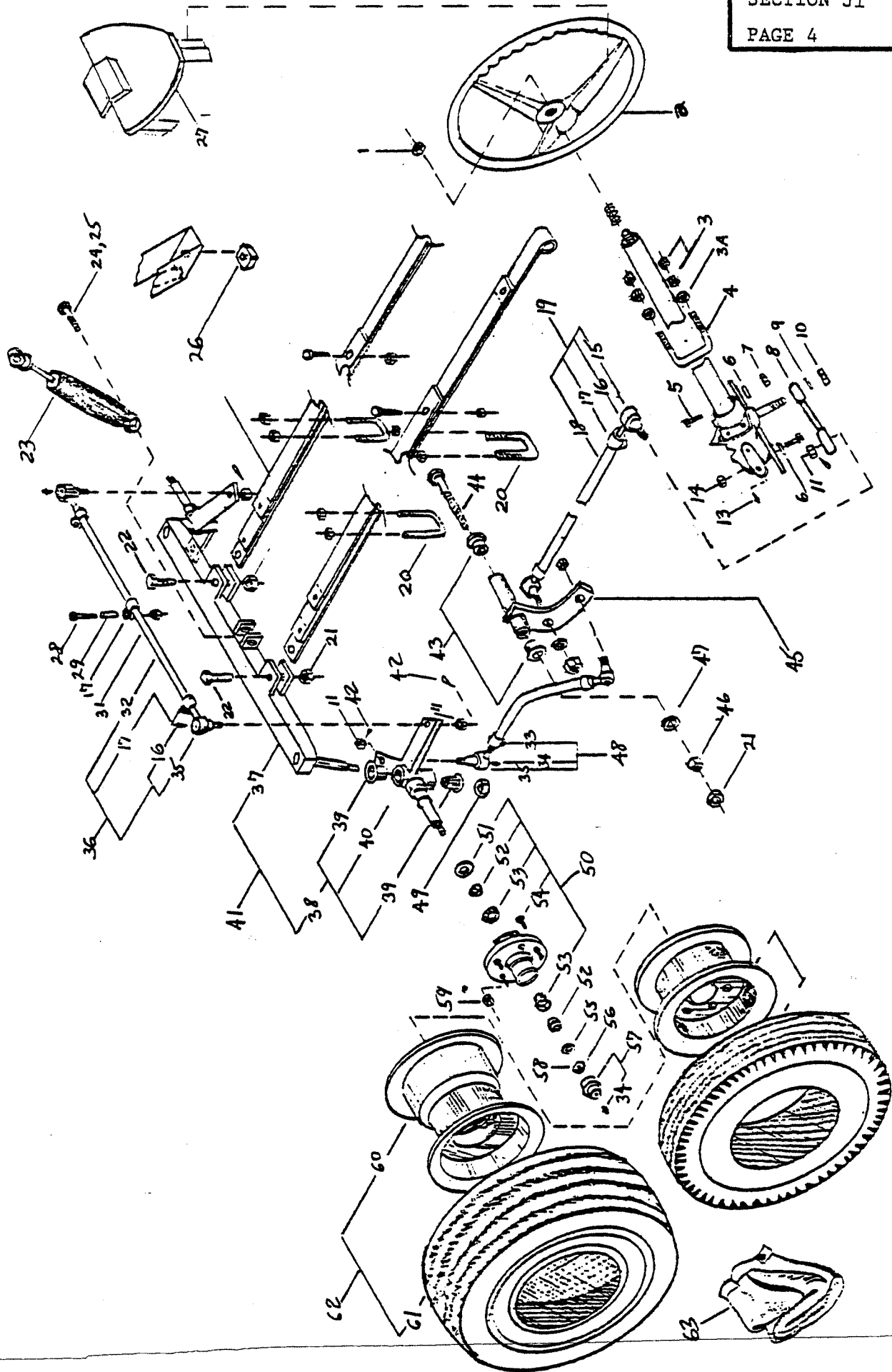
1. Remove cotter pin and nut.
2. Loosen sleeve clamp.
3. Rap ball joint stud sharply with soft hammer or soft block and regular hammer to loosen tapered stud from steering arm.
4. Either measure position of ball joint or count number of threads exposed from sleeve. Remove ball joint by unscrewing from sleeve. Note that one end will be left hand thread and the opposite ball joint will be right hand thread.
5. Install new ball joint and position same as the one removed.
6. Install tapered stud in steering arm or gear lever arm.
7. Replace nut, tighten securely and replace cotter pin.
8. If ball joint replaced is part of the tie rod, check toe-in, and adjust, if necessary, as described in sub-section titled "Align Front End".
9. If ball joint replaced is part of the linkage from gear lever arm to steering arm, check relative positions of steering wheel and road wheels. Steering wheel spoke should be in the six o'clock position when the road wheels are in the straight forward position. Adjust by rotating the adjusting sleeve until the desired relationship is obtained.
10. Tighten both sleeve clamps securely.
11. Lubricate ball joint through zerk fitting. Refer to Lube Chart in Section E.

Remove and Replace Steering Worm Assembly:

1. Remove two screws which retain score card pad, and remove score card pad. Pry cap from steering wheel hub, exposing locknut.
2. Remove steering wheel locknut, and with suitable puller, remove steering wheel from shaft.
3. Disconnect ball joint and sleeve assembly from steering gear lever arm. Remove cotter pin and nut, rap ball joint stud sharply with soft hammer, or soft block and regular hammer, to loosen tapered stud.
4. Remove steering column clamp.
5. Remove two bolts which retain steering worm housing to frame, and remove steering worm gear and steering column assembly from bottom of vehicle.
6. Should it be necessary to remove the gear lever arm from the shaft, note the position of the gear lever arm with respect to the indicating mark on the end of the shaft for proper positioning at assembly.
7. Install in reverse order. When assembling steering wheel to shaft, first position the front wheels in a straight forward direction, then install steering wheel with one of the spokes as close to the six o'clock position as the splines will allow. Final adjustment can be made by lengthening or shortening the ball joint and adjusting sleeve assembly. Tighten steering wheel lock nut, and tighten adjusting sleeve clamps if they were loosened in order to make adjustment.
8. Check steering to determine if wheels will turn an equal amount in either direction. If this is not the case, it will be necessary to re-position the gear lever arm on the steering worm output shaft. This may in turn require repositioning the steering wheel to obtain the desired six o'clock spoke condition.
9. Lubricate steering worm through the zerk fitting located on the steering worm housing. Refer to the Lube Chart in Section E.

Replacement of Steering Idler Bushings

1. Remove steering idler shaft lock nut.
2. Unscrew shaft from inner nut, and remove shaft bushings, washer, and inner nut.
3. Reassemble in reverse order with the shaft head and lock nut on the outboard sides of the chassis members which retain the assembly and with the washer between the inboard nut and the bushing.



3-30-81

ANG†

DEC†

TOL: FRAC†

DO NOT SCALE

FRONT AXLE, TIRES, STEERING & SUSPENSION
Model GT-037-10 & GT-037-11

SCALE: NONE
DWN BY: JWH

Figure 4

Taylor-Dunn
2114 WEST BALL ROAD
AHEIM, CALIFORNIA
92803



FRONT AXLE, WHEELS, AND STEERING
REFER TO FIGURE NO. 4

FIG. I.D. NO.	T-D PART NO.	DESCRIPTION	QTY. REQ.
NOTE: REFER TO SECTION J1A FOR STEERING WORM ASSEMBLY INFORMATION AND PARTS LISTINGS			
4-1	88-259-82	Nut, Hex Head 13/16 NF	1
4-2	19-003-20	Wheel, Steering, Deluxe Splined Hub, Black	1
4-3	88-099-80	Nut, Hex Head 5/16 NF	4
4-3A	88-088-62	Washer, Lock 5/16	4
4-4	96-099-00	U-Bolt, 5/16 NF	1
4-5	88-130-14	Screw, Hex Head, 7/16 X 1- $\frac{1}{2}$ NF	2
4-6	88-128-60	Washer, 7/16	3
4-7	88-130-86	Nut, Hex Lock Fiber Insert, 7/16 NF	2
4-8	18-107-00	Lever, Steering, Splined, 7- $\frac{1}{2}$ Long	1
4-9	88-268-62	Washer, Lock, 7/8	1
4-10	88-279-82	Nut, Hex Head, 7/8 NF	1
4-11	88-159-85	Nut, Slotted Hex X $\frac{1}{2}$ X 20 NF	6
4-13	87-073-00	Fitting, Grease, 45°, 3/16 Drive Type	1
4-15	86-501-99	Ball-Joint, $\frac{1}{2}$ Thread on Tapered End, Rt Hand	3
4-16	87-074-00	Fitting, Grease, $\frac{1}{4}$ -28 NF, Straight	8
4-17	86-510-00	Clamp, Ball Joint	7
4-18	18-035-00	Sleeve, Steering Adjustment, 11" Long	1
4-19	18-035-10	Assembly, Steering Adjustment Sleeve with Ball Joints and Clamps, 11" Sleeve	1
4-20	96-120-00	U-Bolt, $\frac{1}{2}$ NC, 1-7/8 1D X 2 Long	4
4-21	88-149-81	Nut, Lock $\frac{1}{2}$ NC	10
4-22	96-316-00	Bolt, $\frac{1}{2}$ NC X 3, All Thread	2
4-23	86-003-00	Shock Absorber with Rubber Cushion Stop	1
4-24	88-120-17	Screw, Hex Head, 7/16 NC X 2- $\frac{1}{4}$ Long	1
4-25	88-129-81	Nut, Lock 7/16 NC	1
4-26	98-753-00	Cushion, Rubber, Frame to Spring	1
4-27	91-511-00	Score Card Holder, Black Plastic	1
4-28	88-080-18	Screw, Hex Head, 5/16 X 2- $\frac{1}{2}$ NC	1
4-29	16-801-00	Spacer, Towing, $\frac{1}{2}$ X 1- $\frac{1}{2}$ Long	1
4-31	88-089-81	Nut, Hex Lock, 5/16	1
4-32	18-047-00	Sleeve, Stering Adjustment, 18" Long	1

FIG. I.D. NO.	T-D PART NO.	DESCRIPTION	QTY. REQ.
4-35	86-501-98	Ball-Joint, $\frac{1}{2}$ " Thread on Tapered End, L. Hand	3
4-36	18-047-10	Assembly, Steering Adjustment Sleeve with Ball Joints and Clamps, 18" Sleeve	1
4-37	15-066-00	Axle, with King Pins <u>less</u> Spindles, Hubs and Tie Rod	1
4-38	14-157-98	Assembly, Spindle, Left Front	1
4-38	14-157-99	Assembly, Spindle, Right Front	1
4-39	32-200-00	Bushing, Bronze, Oil Impregnated with Flange, 7/8 ID X 10D for Spindles	4
4-40	87-071-00	Fitting, Grease, 3/16 Drive Type	2
4-41	15-066-10	Assembly, Front Axle with King Pins, Spindles, Hubs and Tie Rod	1
4-42	88-527-11	Pin, Cotter, 1/8 X 1	6
4-43	32-215-00	Bearing Plastic Flanged	2
4-44	50-004-00	Shaft, $\frac{1}{2}$ X 8, Threaded Each End, Stainless Steel	1
4-45	00-370-14	Arm, Idler, Steering	1
4-46	88-149-80	Nut, Hex Head, $\frac{1}{2}$ NC	1
4-47	88-148-61	Washer, SAE, $\frac{1}{2}$	11
4-48	18-029-11	Assembly, Steering Adjustment Sleeve with Ball Joints & Clamps, 13" with 40° bend	1
4-49	88-279-81	Nut, Lock, 7/8 NC	2
4-50	12-124-00	Hub, Wheel, 2-3/4" Long, Five $\frac{1}{2}$ " Studs on 4- $\frac{1}{2}$ " Bolt Circle with Two 1" Bearing Races, One Bearing and One Oil Seal	2
4-51	45-338-00	Seal, Oil for 1" Bearing	2
4-52	80-017-00	Bearing, Tapered Roller, 1" ID	4
4-53	80-103-00	Race, Tapered Bearing for 1" Bearing	4
4-54	96-329-00	Bolt, Lug, $\frac{1}{2}$ NF	10
4-55	88-228-60	Washer, 3/4 SAE	2
4-56	88-527-14	Pin, Cotter, 1/8 X 1- $\frac{1}{2}$	2
4-57	92-104-00	Cap, Dust with Grease Fitting	2
4-58	88-239-85	Nut, Slotted Hex 3/4 NF	2
4-59	97-236-00	Nut, Lug, Tapered, 1/8 NF	10
4-60	12-020-00	Wheel, Demountable for 18 X 850 X 8 Tire	4
4-61	10-093-00	Tire, 18 X 8.50 X 8, 4 Ply Terra Power Rib Tubeless, Goodyear	4
4-62	13-746-00	Assembly, Tire & Demountable Wheel 18 X 850 X8, 4 Ply Terra Power Rib, Tubless, Armstrong	4

FIG. I.D. NO.	T-D PART NO.	DESCRIPTION	QTY. REQ.
4-62	13-746-10	Assembly, Tire & Demountable Wheel, 18 X 850 X 8, 4 Ply Terra Power Rib, Tubeless, Goodyear	4
4-63	11-041-00	Tube, (Optional) for 18 X 850 X 8 Tire	

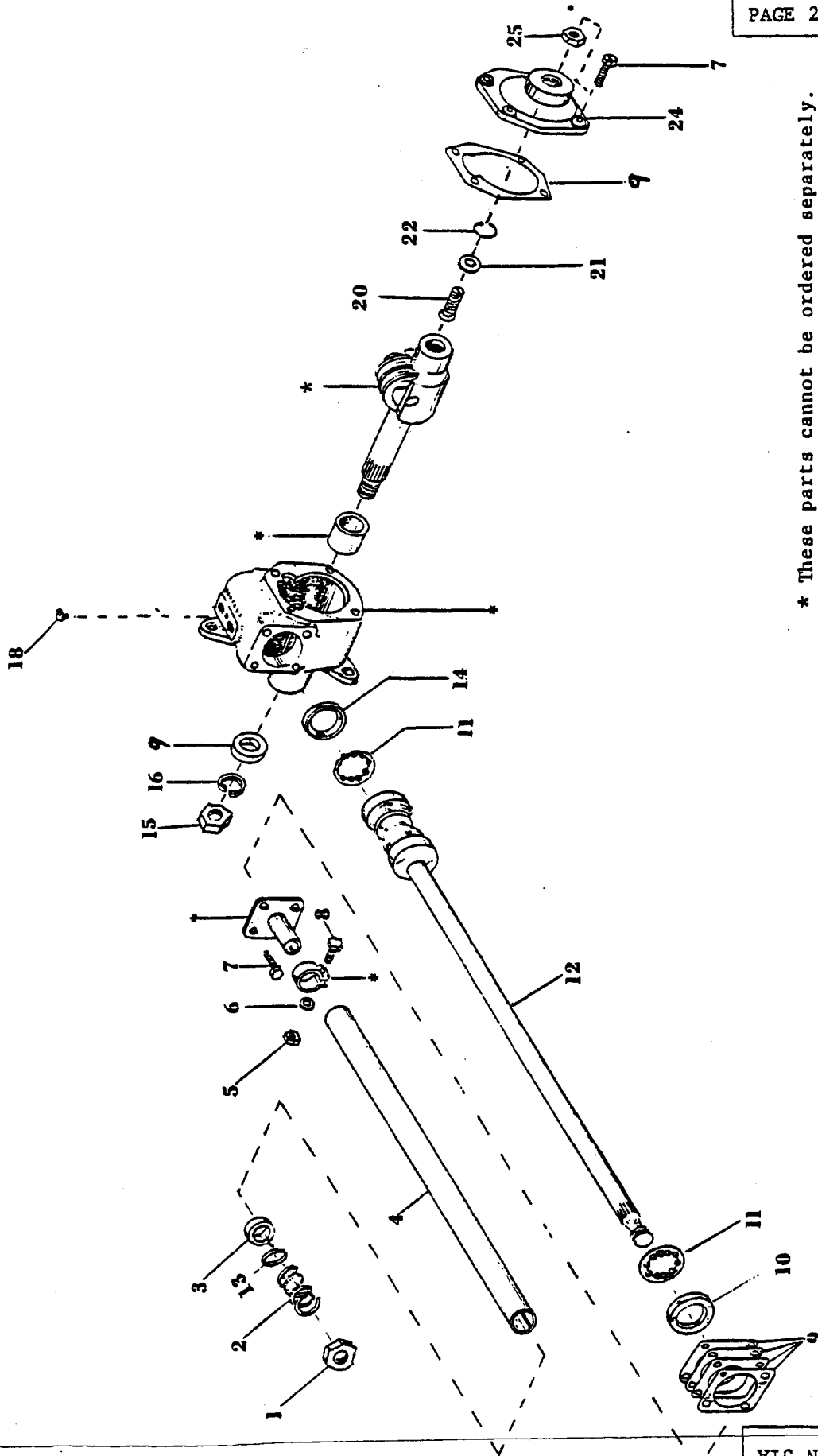
SERVICE AND ADJUSTMENT

REFER TO FIGURE 4A

STEERING WORM ASSEMBLY

DISASSEMBLE AND REASSEMBLE STEERING WORM

1. Remove 4 bolts from cover and slide steering arm shaft assembly and cover from housing.
2. Mark position of steering column jacket tube clamp for proper reassembly.
3. Loosen steering column jacket tube clamp, and slide jacket tube off of housing and steering column shaft.
4. Remove 4 bolts from housing worm bearing cap and remove steering column worm and shaft assembly.
5. Clean all parts and flush out housing with suitable degreasing solvent. Lightly oil all parts for reassembly.
NOTE: If installing new steering column shaft and worm assembly, worm bearings, or worm bearing cups, it will be necessary to check the worm bearing preload.
6. To check worm bearing preload, install the steering column worm and shaft assembly, bearings, bearing cups, bearing cap and original shims.
7. Tighten 4 bolts to 18-22 ft. lbs. torque.
8. Shaft and worm must not have any bearing looseness or "play" and should not rotate with less than 1-1/4" lbs. torque nor require more than 4 1/2" lbs. of torque.
9. Add or take away shims as needed to produce the desired bearing preload.
10. Inspect steering arm shaft seal and cover gasket. Replace if worn or damaged.
11. Install steering arm shaft and cover assembly. Tighten four cover bolts to 18 - 22 ft. lbs. torque. NOTE: With steering arm shaft positioned at the center of its travel, there must be no backlash with mating worm and roller. Total preload for assembled unit must be no less than 5-3/4" lbs. torque measured at steering worm shaft nor more than 11-1/4" lbs.
12. Adjust total preload to proper limits by loosening locknut on backlash adjusting screw located in cover and turning adjusting screw clockwise to increase preload and counterclockwise to decrease preload. Retighten lock nut securely.
13. Replace steering column jacket tube and clamp in original position.



* These parts cannot be ordered separately.
Order as part of the entire steering unit
assembly, part # 18-307-14

NO.		DESCRIPTION	LENGTH	QUAN.	REVISED DATE	REVISION
TOL.		FRAC. \pm DEC. \pm	<div> <div>FIGURE 4A</div> <div>SECTION J1A</div> <div>STEERING WORM ASSEMBLY</div> <div>SECTION J1A</div> </div>			
SCALE		NONE				
DRAWN BY		Z-4-77				
DATE						
<div> <div>SECTION J1A</div> <div>PAGE 2</div> </div>			<div> <div>TAYLOR DUNN MFG. CO.</div> <div>2114 West Ball Rd.</div> <div>Anaheim, Calif.</div> </div>			

STEERING WORM ASSEMBLY
REFER TO FIGURE 4A

FIG. I.D. NO.	T-D PART NO.	DESCRIPTION	QTY. REQ.
4A-0	18-307-14	Steering Gear - this part number no longer valid - see BUL-98-09-011	
4A-1	88-259-82	Nut, Jam 13/16 Hex Head, NF	1
4A-2	85-122-00	Spring, Compression 1-1/8 OD x 1	1
4A-3	18-307-54	Spacer, Jacket Bearing	1
4A-4	18-307-52	Jacket, Steering Column	1
4A-5	88-099-80	Nut, 5/16 NF	1
4A-6	88-088-62	Washer, Lock	1
4A-7	88-080-09	5/16 x 3/4 NC Hex Hd Cap Screw	8
4A-8	NOT STOCKED	5/16 x 2 NF Hex Hd Cap Screw	1
4A-9	18-307-42	Gasket, Seal & Shim Kit for Steering Worm	1
4A-10	18-307-57	Worm Adjustment Bearing Cup, Inner (Requires 18-307-42)	1
4A-11	18-307-53	Worm Bearing Assembly (Requires 18-307-42)	2
4A-12	18-307-51	Steering Column Shaft & Worm Assembly (Requires 18-307-42)	1
4A-13	18-307-55	Spacer, Jacket Bearing	1
4A-14	18-307-56	Worm Bearing Cup, outer (Requires 18-307-42)	1
4A-15	88-279-82	Nut, Jam 7/8 NF Hex	1
4A-16	88-268-62	Lockwasher, 7/8	1
4A-17	18-307-59	Seal, Steering Arm Shaft	1
4A-18	87-073-00	Fitting, Gear 45 degree, 3/16 drive	1
4A-20	18-307-64	Screw, adjusting	1
4A-21	18-307-65	Washer, Thrust	1
4A-22	18-307-66	Snap Ring	1
4A-24	18-307-67	Shaft Cover	1
4A-25	88-159-82	Nut, Jam 1/2" NF	1

MAINTENANCE, SERVICE AND PARTS
POWER TRACTION AND BELT DRIVE SYSTEMS
REFER TO FIGURE 5

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 mount nuts.
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 an error will result in the final adjustment which will seriously reduce the life 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. One Round Equals 18 Holes of Play

Scheduled Adjustment	After	Comments
1st Adjustment	100 Rounds	New unit or after installing new chain
2nd Adjustment	Next 300 Rounds	Normal running conditions
3rd Adjustment	Next 500 Rounds	Normal running conditions
Thereafter	Every 600 Rounds	Normal running conditions

"Quick" Motor Removal Procedure - Power Traction

NOTE: This procedure is a quick method of removing the motor without removing the chain case cover. If removal of the chain case becomes necessary, refer to Sub-Section titled "Disassembly and Reassembly Power Traction Drive Assembly".

1. CAUTION: Disconnect both main battery leads to prevent accidental engagement of power while servicing unit.
2. Drain oil from gear case by removing drain plug.
3. Identify motor leads from proper connection when reassembling. Remove motor leads.
4. Loosen 3 motor mount nuts and the adjusting set screw lock nut.
5. 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.
6. Remove the 3 motor mounting nuts and washers. Carefully ease motor out of opening after removing chain from motor sprocket.

"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 new 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 ship 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 shipped off sprocket. CAUTION: If chain is not properly positioned on sprocket, sever damage could occur to the Power Traction Component parts.
11. Adjust chain tension as described in Sub-section titled "Adjustment of Drive Chain Tension".

Disassembly and Reassembly of Power Traction Drive Assembly

1. Perform steps 1,2 and 3 in Sub-section titled "Quick Motor Removal Procedure-Power Traction".
2. Remove remaining bolts and nuts from front of chain case cover. Remove chain case cover.
3. Remove the three nuts and washers which fasten motor to motor mounting plate. Disengage chain from motor sprocket. Remove motor, motor mounting plate and sprocket from chain case backing plate.
4. Remove "O" ring from motor mounting plate.
5. Remove chain, pinion sprocket and spacers from pinion shaft.
NOTE: Spacer location for proper reassembly.
6. If axle or differential maintenance requiring further disassembly is necessary, remove chain case backing plate and gasket by removing the 5 bolts which retain the backing plate to the differential carrier. Refer to Sub-sections which cover axle and differential disassembly and reassembly.
7. To reassemble, install chain case backing plate and gasket to differential carrier with 5 bolts previously removed. Use gasket sealer. Tighten bolts to 50 ft. lbs. torque. Install chain on pinion sprocket.
8. Install "O" ring in motor mounting plate and attach motor and motor mounting plate to chain case backing plate.
9. Engage chain with motor sprocket and secure motor mounting plate to chain backing plate with 3 nuts and washers previously removed.

NOTE: Chain adjustment procedure is covered in Sub-section titled "Adjustment of Drive Chain Tension - Power Traction".

10. Install chain case cover and gasket to chain case backing plate. Replace gasket if damaged. Tighten gear case cover retaining bolts and nuts.
11. Fill gear case with oil. Refer to lube chart in Section "E".
12. Connect motor leads.
- * 13. Connect battery main leads.

Remove and Install Rear Wheel Bearings, Power Traction & Belt Drive

1. WARNING: Disconnect both main battery leads to prevent accidental engagement of power while servicing vehicle.
2. Remove wheel and tire assembly.
3. Remove four (4) bolts attaching disc brake mounting bracket to Drive Axle Housing after first bending clip locking tabs out of the way (2 clips, 4 tabs).
4. Remove two (2) bolts and nuts attaching the caliper actuating lever to the caliper three hole position lever.
5. Remove caliper assembly from axle.
6. Remove axle from housing.
CAUTION: If axle is difficult to remove from housing, use an axle puller that is designed for that purpose. Never use a hammer or other metal object to help drive the axle from the housing. Damage to the disc rotor could occur resulting in severe damage to the brake system and/ or loss of brakes on one side.
7. Pull bearing retainer ring and bearing from axle shaft.
8. Press new bearing to shoulder on axle shaft. Press new bearing retainer ring into position on axle shaft.
9. Check condition of oil seal and replace if necessary.

* CAUTION: See statement on P.8 concerning correct procedure for connecting motor leads.

Remove and Install Rear Wheel Bearings, Power Traction & Belt Drive (CONT'd)

10. Carefully install axle into axle housing and differential assembly.
11. Attach brake caliper, assemble to housing. Secure with four (4) bolts and two (2) double tab clips. Tighten bolts to 35 lb. torque. Now bend locking tabs up against their respective bolts.
WARNING: Failure to bend locking tabs up properly against bolts could eventually result in loss of braking action due to bolts becoming loose.
12. Reconnect battery main leads.

Remove and Install Rear Axle Drive Assembly from and to Vehicle - Power Traction and Belt Drive

1. WARNING: Disconnect both main battery leads to prevent accidental engagement of power while servicing vehicle.
2. Mark motor leads to insure their proper location when re-assembling.
3. Remove motor leads.
4. Release parking brake (if applied).

NOTE: Refer to Section J3, Sub-section titled "Brake Adjustment Procedure for when all Brake adjustment screw travel has been Used-Up" before continuing with Step 5.
5. Remove bolt holding brake linkage centering spring to drive axle housing.
6. Remove spring from drive axle housing bracket and from brake adjusting screw.
7. Loosen adjusting screw jam nut.
8. Turn adjusting screw back to a point where approximately 0 to 2 threads of the cable anchor link are visible when looking inside.
9. Remove the "E" Clip from the brake cable housing at the frame tube on drivers side of vehicle.
10. Pull brake cable forward sufficiently to remove cable terminal swag from brake bell crank assembly.
11. Remove lower bolt from shock absorber.
12. Remove 4 bolts and nuts which attach axle housing to main leaf spring each side.
13. Remove drive axle assembly from vehicle.
14. Before re-installing drive axle assembly back in vehicle, examine rubber bushings in leaf springs and replace if worn or damaged.
15. Install drive axle assembly in reverse order of removal.
16. Reconnect brake cable at bell crank assembly and install "E" clip.
17. Check and adjust (if necessary) brake system according to procedures in Section J3.
18. Connect main battery cables.

Disassembly of Rear Axle and Differential Assembly - Power Traction & Belt Drive

1. Remove drive axle assembly from chassis, remove motor and chain drive assembly as described in appropriate Sub-sections.
2. Remove both axles. Refer to Sub-section "Remove and Install Rear Wheel Bearings"
3. Remove nuts around differential carrier housing and remove carrier from axle housing.

Disassembly of Rear Axle & Differential Assembly - Power Traction & Belt Drive
(CONT'D)

4. Mark one differential bearing cap and bearing support to insure proper assembly. Remove adjusting nut locks, bearing caps, and adjusting nuts. Lift differential out of carrier.
5. Remove ring gear pinion from differential case.
6. Drive out differential pinion shaft retainer and separate the differential pinion shaft and remove gears and thrust washers.
7. Remove ring gear pinion retainer from carrier. Remove O-Ring from retainer.
8. Remove pinion locating shim. Measure shim thickness with micrometer
9. If the ring gear pinion pilot bearing is to be replaced, drive the pilot end and bearing retainer out at the same time. When installing, drive the bearing in until it bottoms. Install a new retainer with the concave side up.
10. Press the ring gear pinion shaft out of front bearing cone and remove spacer.
11. Remove ring gear pinion bearing cone.
12. Do not remove ring gear pinion bearing cups from retainer unless they are worn or damaged. The ring gear pinion bearing flange and pilot are machined by locating on these cups after they are installed in the bores. If new cups are to be installed, make sure they are seated in the retainer by trying to insert a .0015" feeler gauge between cup and bottom of bore.

Reassembly of Rear Axle and Differential Assembly - All Vehicles

1. Differential Case: Place a side gear and thrust washer in the differential case bore. LUBRICATE ALL PARTS LIBERALLY WITH AXLE LUBRICANT DURING ASSEMBLY. With a soft faced hammer, drive pinion shaft into case only far enough to retain a pinion thrust washer and pinion gear. Place the second pinion and thrust washer in position. Drive the pinion shaft into place. Be careful to lineup pinion shaft retainer holes. Place second side gear and thrust washer in position and install differential case cover. Install retainer. A pinion or axle shaft spline can be inserted in side gear spline to check for free rotation of differential gears.
2. If the differential bearings have been removed, use a suitable press to install them.
3. Install pinion rear bearing cone on the pinion shaft. Install spacer with shims on the shaft. Place the bearing retainer on the pinion shaft, and install the front bearing cone. Lubricate both bearings with differential oil.
4. Power Traction: Place spacers and sprocket on pinion shaft spline. Install washer and shaft nut and tighten to 100 ft. lb. torque.
Belt Drive: Place spacers and pulley on pinion shaft spline. Install washer and shaft nut and tighten to 100 ft. lb. torque.

NOTE: The bearing should spin freely without end play. If it is too tight or too loose, adjust by removing or adding spacers.

Refer to Figure 5, I.D. Nos. 52 and 53.

5. Shim Selection: Manufacturing tolerances in the pinion bore dimensions and in the best operation position of the gears make an adjustment shim necessary. This shim is placed between the pinion retainer and the carrier, Fig. 5. An increase in the thickness of the shim moves the pinion away from the drive gears. Manufacturing objectives are to make axles requiring a .0015" shim and if a new assembly is being built, a .0015" shim should be used for a tentative build-up. Shims are available in .010" to .021" thickness in steps of .001". Pinions and drive gears are marked, when matched, with the same number. Following the numbers on the pinion is a (-) or (+) followed by a number. If the pinion is marked "-1" it indicates that a shim .001" thinner than a standard shim for this carrier is required.

Reassembly of Rear Axle and Differential Assembly - All Vehicles (CONT'D)

5. Shim Selection (cont'd): A minus number means the pinion should be moved closer to the drive gear and a thinner shim is required. A plus number means the pinion should be moved farther from the drive gear and a thicker shim is required. A pinion marked zero (0) is a standard pinion. To select a shim, measure the original shim with a micrometer. Note the dimensional mark on the original pinion. Compare the mark on the original pinion with the mark on the new pinion to determine how the original shim should be modified. For example, if the original shim is .015" and the original pinion is marked "-1", the new pinion requires a +1 Shim. Therefore, the new pinion requires a .002" thicker shim, and a .017" shim should be used. If the new pinion is marked the same as the old pinion, no shim change is required.
6. After the proper selection of shims, insert "O" ring seal and pinion retainer assembly into differential carrier. Tighten 5 retainer bolts to 50 lb. ft. torque.
NOTE: Four or five of the retainer bolts will have to be removed later for installation of drive assembly.
7. Install differential case, bearing cups, adjusting nuts, and bearing caps being sure that each cap is located in the same position from which it was removed. (Use marks as guide).
8. ADJUST bearing nuts so that differential case will be free to revolve. It is very important that there will be no bearing play or looseness, as this will inevitably lead to gear noise and wear. Gear backlash must be set at the same time to a tolerance of .005" to .009".
NOTE: It will be necessary to release some of the cap bolt tension in order to allow the bearing to move while making the adjustments. If the caps are too loose an error will result when trying to set backlash and bearing clearance. Therefore double check your setting after the cap bolts have been tightened. If necessary make corrections in you settings until the specified tolerances are maintained after the cap bolts have been tightened.
9. Install nut locks
10. Install differential carrier assembly in drive axle housing using new gasket and gasket sealer
11. Install axles, brake assemblies, bearing retainers, and gaskets.
NOTE: Axles are equipped with special sealed bearings. Should there be evidence of seal leakage, it is recommended that the bearing be replaced. It is also recommended that gasket located between bearing and bearing sead in drive axle housing be replaced at the same time. Refer to Figure 5, or Figure 5A.
12. Power Traction: Remove pinion shaft nut, washer, spacer, and sprocket. Remove five bolts from pinion bearing flange. Install chain drive components and motor as described in sub-section titled "Disassemble and Reassembly of Drive Assembly - Power Traction."
Belt Drive: Remove pinion shaft nut, washer, and pulley. Install Drive components as described in sub-section titled "Disassembly and Reassemble Drive Assembly - Belt Drive Vehicles".
13. Fill housing with oil level described in Section E, Figure 1 (Power Traction) or Figure 1A (Belt Drive).

Belt Tension Adjustment and Alignment - Belt Drive Vehicles

NOTE: New belts will 'seat-in' rapidly, therefore, readjust 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 of running until the new belts become thoroughly "seated-in".

1. Disconnect one battery lead 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 with straight edge. If misaligned, move motor forward or rearward on it's 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.

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.

Remove and Install Motor - Belt Drive Vehicles (Cont'd)

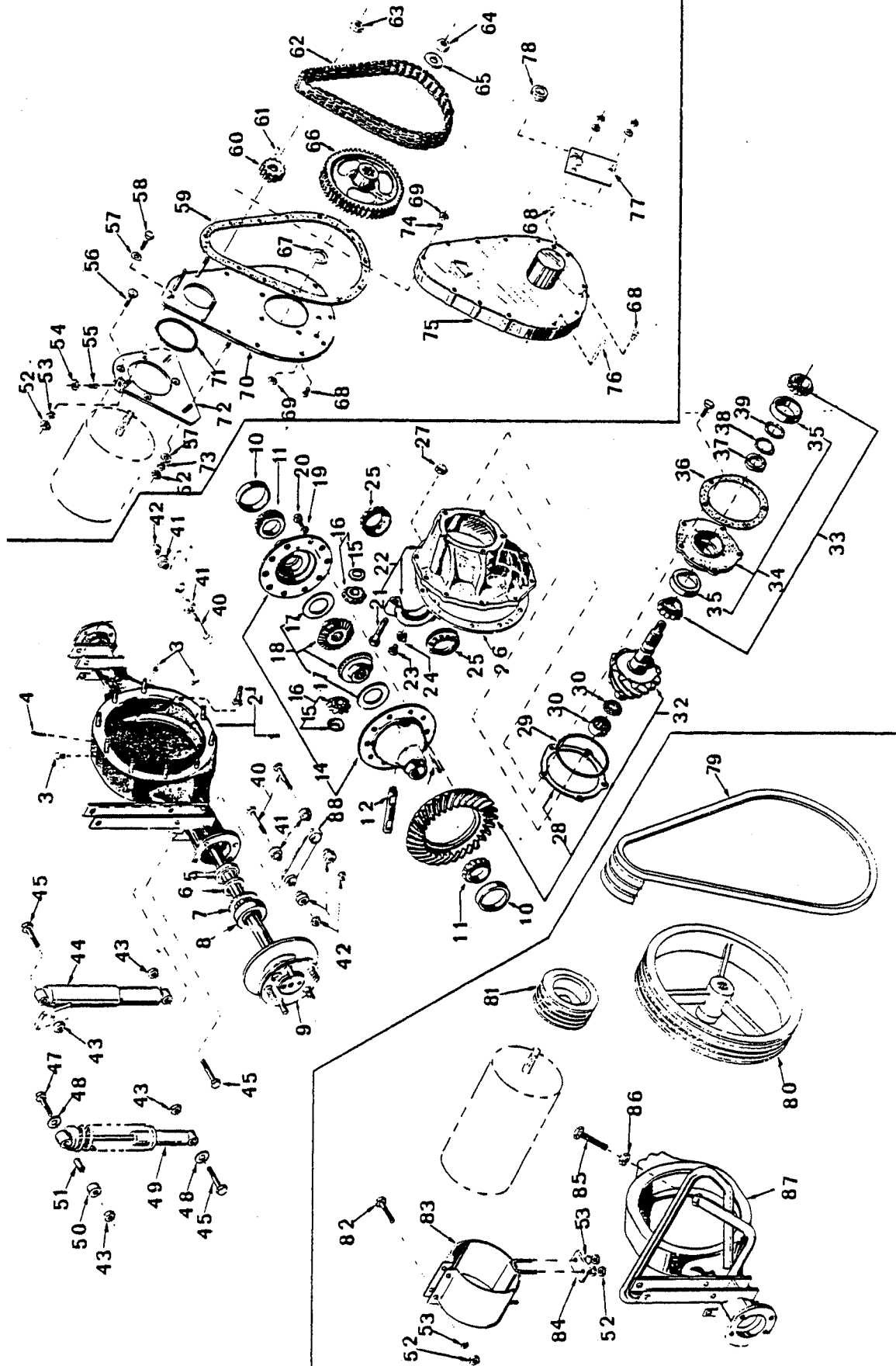
6. If installing new motor, remove motor shaft nut, pulley, and key from old motor. Also remove motor mounting brackets and screws. For information on maintenance of motor, refer to Section J2M
7. If installing new motor, assemble pulley, key and shaft nut. Tighten shaft nut to 75 ft. lb. torque.
8. Reassemble drive axle assembly in reverse order. Adjust and align belts as described in sub-section titled "Belt Tension Adjustment and Alignment Belt Drive Vehicles".

Disassembly and Reassembly of Belts & Pulleys - Belt Drive Vehicles

1. Perform Steps 1 through 5 in sub-section titled "Remove and Install Motor-Belt Drive".
2. Remove Diff. Pinion Gear, shaft nut, washer, pulley, and specers from Diff. Pinion Gear Shaft.
3. Reassemble in reverse order.
4. Before reconnecting battery lead, adjust belt tension and alignment as described in sub-section titled "Belt Tension Adjustment and Alignment - Belt Drive Vehicles".
5. Reconnect battery lead.

CAUTION: Motor Lead Connection Procedure

- a. Check that each motor terminal stud nut is tightened securely but not over-tightened as this could bend or twist the terminal post and cause an electrical short within the motor.
- b. Install motor leads on correct motor terminal post.
- c. Install second nut on each terminal post and finger tighten
- d. To avoid bending, twisting or breaking-off a terminal post, use a thin pattern 9/16" wrench to hold bottom nut from moving while tightening the top nut. Carefully tighten the top nut so as to make a good connection between the terminal post and motor lead.



DO NOT SCALE	TOL: FRAC±	DEC±	ANG±	4-1-81
Taylor-Dunn 2114 WEST BALL ROAD AHEIM, CALIFORNIA 92803	DRIVE AXLE ASSEMBLY MODEL GT-370-10 & GT-371-10	SCALE: NONE DWN BY: N.W. CHKD BY: J.A.	FIGURE 5	SHEET 1

POWER TRACTION & BELT DRIVE
REFER TO FIGURE 5

FIG. I.D. NO.	T-D PART NO.	DESCRIPTION	QTY.
5-1	41-301-00	Housing, Drive Axle, Power Traction	1
5-2	96-330-00	Bolt, Differential Carrier to Housing	10
5-3	41-997-00	Plug, Fill, Drain and Level	3
5-4	88-527-11	Pin, Steel Cotter, 1/8 x 1	1
5-5	45-297-00	Seal, Oil, 1.375 Shaft x 2.564 OD	0 or 2
5-5	45-298-00	Seal, Oil, 1.375 Shaft x 2.088 OD	0 or 2
5-5	45-299-00	Seal, Oil, 1.375 Shaft x 2.265 OD	0 or 2
5-6	32-516-00	Retainer - Ring, Rear Axle Bearing	2
5-7	45-044-00	Gasket, Axle Bearing to Drive Axle Housing	1
5-8	80-491-00	Bearing, Ball, Rear Axle	2
5-9	41-151-10	Assembly, Rear Axle with Bearing and Gasket less Oil Seal	2
5-10	80-127-00	Race, Tapered Bearing O.D. 2.891, Timken LM 501310	2
5-11	80-511-00	Bearing, Tapered Roller I.D. 1.628, Timken LM 501349	2
5-12	41-700-00	Shaft, Differential Pinion	1
5-13	41-701-00	Pin, Tension	1
5-14	41-725-00	Case, Differential Gear	1
5-15	41-702-00	Washer, Thrust, Differential Pinion Shaft	2
5-16	41-703-00	Kit, Differential Pinion Gear, Includes 2 Differential Pinion Gears & 2 Thrust Washers	1 Kit
5-17	41-704-00	Washer, Thrust, Differential Side Gear	2
5-18	41-705-00	Kit, Differential Side Gear, Includes 2 Differential Side Gears & 2 Thrust Washers	1 Kit
5-19	97-163-00	Washer, Ring Gear Bolt, 7/16 I.D. x 3/4 O.D. x 1/32 Thick	10
5-20	96-243-00	Screw, Hex Head Cap, 7/16 x 7/8 N.F., Grade 5	10
5-21	88-140-16	Screw, Hex Head Cap, 1/2 x 2	2
5-22	41-726-00	Carrier, Differential, Less Differential Gear Case Assy., Bearings & Ring and Pinion Gears	1
5-23	88-080-09	Screw, Hex Head Cap, 5/16 x 3/4 N.C.	2
5-24	41-706-00	Lock, Differential Bearing Adjustment Nut	2
5-25	41-707-00	Nut, Differential Bearing Adjustment, 2-15/16 OD	2
5-26	45-051-00	Gasket, Carrier to Axle Housing	1
5-27	88-119-80	Nut, Hex 3/8 N.F.	14
5-28	41-720-00	Shim, Drive Pinion Bearing, .005" Thick	1 to 3
5-29	80-703-00	O-Ring	1
5-30	80-557-00	Bearing, Roller, Pinion Rear	1
5-31	41-721-00	Retainer, Drive Pinion Bearing	1
5-32	31-260-00	Set, Gear, 2.75 Ratio, 8" Ring with Pinion	0 or 1
5-32	31-261-00	Set, Gear, 3.00 Ratio, 8" Ring with Pinion	0 or 1
5-32	31-262-00	Set, Gear, 3.25 Ratio, 8" Ring with Pinion	0 or 1

FIG. I.D. NO.	T-D PART NO.	DESCRIPTION	QTY.
5-32	31-263-00	Set, Gear, 3.56 Ratio, 8" Ring with Pinion	0 or 1
5-33	80-556-00	Bearing, Tapered Roller, Pinion Shaft, Front and Rear	2
5-34	44-341-90	Flange, Ring Gear Pinion Bearing, with Bearing Races less Bearings, Power Traction	1
5-34	44-341-91	Flange, Ring Gear Pinion Bearing, with Bearing Races less Bearings, Belt Drive	1
5-35	80-139-00	Race, Tapered Roller Bearing, Pinion Shaft, Front and Rear	2
5-36	45-050-00	Gasket Ring Gear Pinion Bearing Flange to Chain Case Backing Plate	2
5-37	16-422-00	Spacer, Pinion Shaft, .440 Thick	2
5-38	16-440-00	Spacer, Pinion Shaft, .002 Thick	2 to 6
5-38	16-441-00	Spacer, Pinion Shaft, .005 Thick	2 to 6
5-39	16-442-00	Spacer, Pinion Shaft, .010 Thick	0 to 2
5-40	96-240-00	Bolt, Hex Head Cap with Pointed End, 1/2 x 4	4
5-41	98-601-00	Grommet, Rubber, 1/2 I.D.	1
5-42	88-149-81	Nut, Hex Lock, 1/2 N.C.	4
5-43	88-129-81	Nut, Hex Lock, 7/16 N.C.	4
5-44	86-602-00	Shock - Absorber	2
5-45	88-120-17	Bolt, Hex Head Cap, 7/16 x 2-1/4 N.C.	4
5-46	(BLANK)		
5-47	88-121-19	Bolt, Hex Head Cap, 7/16 x 2-3/4 N.C., Grade 5	2
5-48	88-128-60	Washer, 7/16	2
5-49	86-004-00	Shock-Absorber, Spring Loaded Less Mounting Sleeve 86-004-50	2
5-50	17-106-00	Collar, 1/2 Shaft, Shock Absorber	2
5-51	86-004-50	Sleeve, Shock Absorber, 7/16 I.D. x 1-1/4 Long	2
5-52	88-109-80	Nut, Hex 3/8 N.C.	3
5-53	88-108-62	Washer, Lock 3/8	3
5-54	88-089-80	Nut, Hex 5/16 N.C.	1
5-55	88-087-11	Screw, Socket Set, 5/16 NC x 1	1
5-56	88-103-09	Screw, Cap, Flat Head Socket, 3/8 x 3/4 N.C.	4
5-57	88-108-60	Washer, Flat Cut, 3/8	4
5-58	88-100-13	Screw, Hex Head Cap, 3/8 x 1-1/4 N.C.	6
5-59	45-002-00	Gasket, Chain Case Cover	1
5-60	30-080-00	Sprocket, Silent Chain, 15 Tooth x 17/32 Face Width with 3/4 Bore	1
5-61	97-100-00	Key, Woodruff 1/8 x 5/8	1
5-62	30-508-20	Chain, Silent, Single Side Guide, 96 Pitches, 13/16 Wide x 36" Long, Used with 80 Tooth Sprocket	1
5-62	30-507-20	Chain, Silent, Single Side Guide, 82 Pitches, 13/16 Wide x 30-3/4" Long, Used with 59 Tooth Sprocket	1
5-63	88-239-82	Nut, Hex Jam 3/4 N.F.	1

FIG. I.D. NO.	T-D PART NO.	DESCRIPTION	QTY.
5-64	97-250-00	Nut, Pinion 3/4, 20 Extra Fine Thread	1
5-65	88-228-61	Washer, 3/4 SAE	1
5-66	30-094-00	Sprocket, Silent Chain, 80 Tooth x 17/32 Face width with 3/4 Bore	1
5-66	30-095-00	Sprocket, Silent Chain, 59 Tooth x 17/32 Face width with 3/4 Bore	1
5-67	16-400-00	Spacer, .125 Thick, 1-1/4 I.D. x 1-1/2 O.D.	1
5-68	41-989-00	Plug, Level and Drain	3
5-69	88-089-81	Nut, Hex Lock 5/16 N.C.	12
5-70	44-353-00	Plate, Chain Case Backing, Adjustable, Motor Mount	1
5-71	80-703-00	"O" Ring, Motor Mount Seal	1
5-72	70-454-00	Plate, Motor Mounting and Adjusting	1
5-73	88-108-62	Washer, Lock 3/8	3
5-74	88-088-61	Washer, SAE, 5/16	11
5-75	43-201-03	Cover, Chain Case	1
5-76	88-080-20	Bolt, Hex Head Cap 5/16 x 3	12
5-77	75-501-51	Support, Wire Harness	1
5-78	98-624-00	Grommet, Rubber	1
5-79	30-620-00	Belt, 3V 400	0 or 4
5-80	30-121-00	Pulley, 4 Belt	1
5-81	30-160-00	Pulley, 4 Belt, 3.15 O.D.	0 or 1
5-81	30-169-00	Pulley, 4 Belt, 2.65 O.D.	0 or 1
5-81	30-159-00	Pulley, 4 Belt, 3.00 O.D.	0 or 1
5-82	88-101-18	Bolt, Hex Head Cap 3/8 x 2-1/2 N.C., Grade 5	1
5-83	70-434-00	Mount, Motor	1
5-84	70-422-00	Strap, Motor Mount	1
5-85	96-316-00	Bolt, 1/2 x 3 N.C.	1
5-86	88-149-80	Nut, 1/2 N.C.	1
5-87	41-301-10	Housing, Drive Axle, Belt Drive	1
5-88	50-669-00	Arm, Torque	1
(NOT SHOWN)	45-341-00	Seal, Oil, Drive Pinion, Belt Drive	1

MOTOR MAINTENANCE, SERVICE AND ADJUSTMENT
ELECTRIC MOTORS
REFER TO FIGURE 5G

Detailed service procedures covering maintenance of bearing brushes and commutator are covered in this section. DO NOT PERFORM THIS PROCEDURE WHILE BATTERIES ARE BEING CHARGED.

Maintenance of electric motors should be referred to personnel with experience and equipment. Should it be necessary for you to order replacement parts for your motor, IT IS NECESSARY TO INCLUDE COMPLETE NAMEPLATE DATA WITH ORDER.

MOTOR MAINTENANCE - BRUSH INSPECTION AND REPLACEMENT

1. Remove cover, exposing brush assemblies. Lift brush from holder for inspection.
2. If brushes are worn, remove, install new brushes. Use fine sandpaper to "seat in" new brushes to commutator. To determine when to replace worn brushes proceed as follows:
 - a. For motors equipped with brushes having end pigtails and side hooks, replace brush when hook is within 1/16" from bottom of hook slot.
 - b. For motors equipped with brushes having side pigtails only, replace brush when pigtail is within 1/16" from bottom of pigtail slot.

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

3. Check operation of each brush to assure that brush slides freely and does not bind in holder.
4. Replace Cover.

MOTOR DISASSEMBLY AND REASSEMBLY

1. Remove motor from vehicle as described in section J2.
2. Determine if witness marks on end bell and stator housing are present. If not, mark end bell and housing to assure proper relation of brushes and commutator when reassembling.
3. Remove cover, exposing brush assemblies. Lift brushes from brush holder.
4. Remove bolts holding end bells and remove end bell and rotor. (Pull from shaft extension end). Take care not to damage any coils or armature wires when handling motor parts.
5. Press or pull old bearings off by using bearing press or bearing puller. Do not damage shaft while removing bearings.
6. Install new bearings onto shaft by gentle pressure or tapping with proper tool on inner race only. Bearing will be damaged if pressed or driven by outer race or seals.
7. If the commutator is worn or "burned" it should be turned, the mica undercut and the commutator polished.
8. Oil bearing housing lightly to aid in reassembly.
9. Reassemble motor taking care that all parts are kept clean.
10. Install brushes and "seat in" with fine sandpaper.
11. Check operation of each brush to assure that brush slides freely in holder.
12. Replace cover.
13. Reassemble to vehicle as described in preceding subsection.

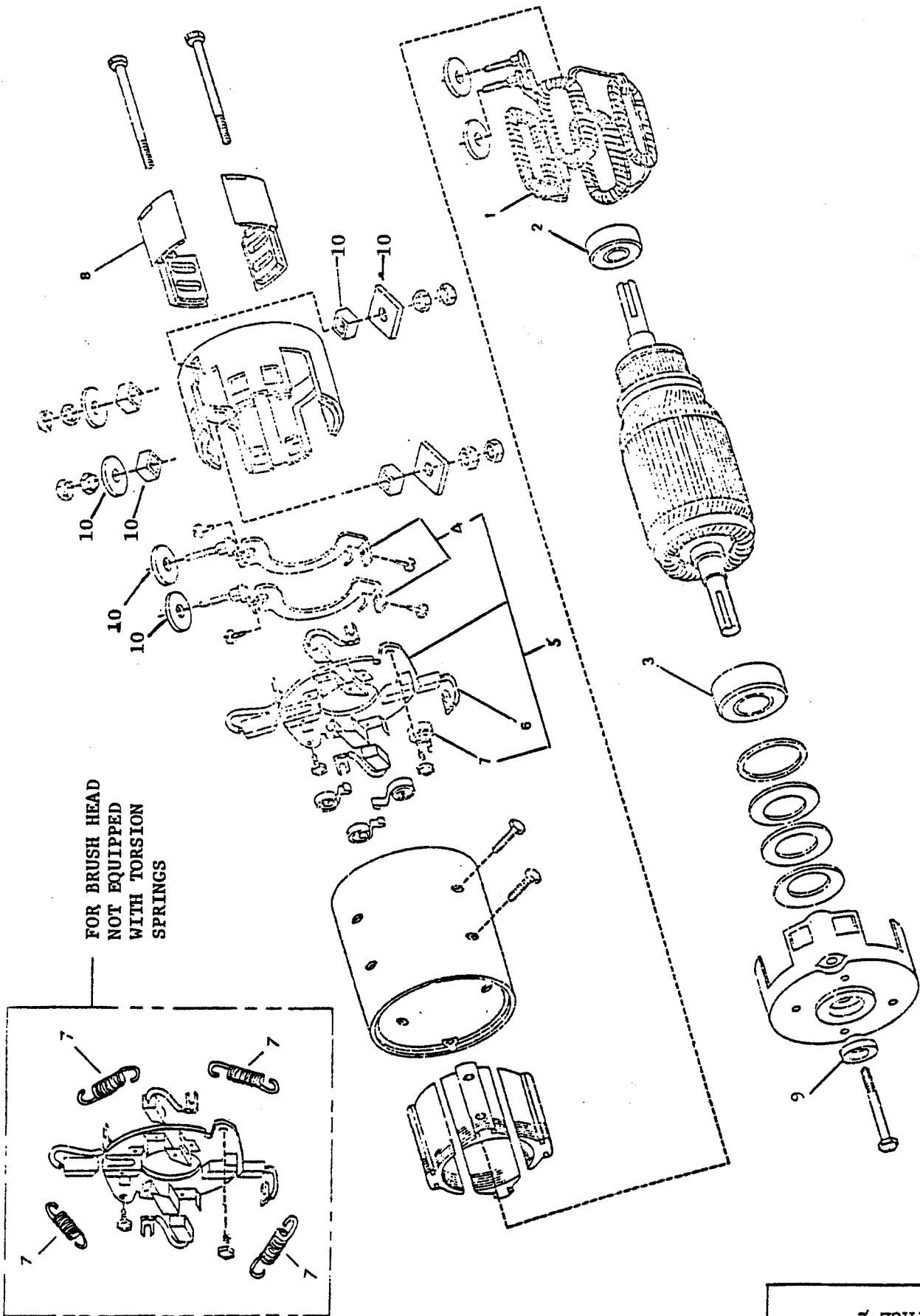
NOTE: If motor terminal studs were removed for inspection, refer to Section J2, p.8 for correct procedure to avoid damaging studs.

MOTOR PARTS - G.E. MOTORS

FIGURE 5M
SECTION J2M

DRAWN B.B.

SECTION J2M
PAGE 2



ELECTRIC MOTORS
REFER TO FIGURE 5M

For D.C. Motor replacement parts, IT IS NECESSARY TO INCLUDE COMPLETE MOTOR NAME PLATE DATA WITH THE ORDER.

FIG. I.D. NO.	T-D PART NO.	DESCRIPTION	QTY.
Replacement parts for G.E. Motor 5BC48JB503, 5BC48JB531, 5BC48JB550 and 5BC48JB582			
5M-1	70-201-00	Field Coil Set (not used on G.E. Motor 5BC48JB582)	1
5M-1	70-202-00	Field Coil Set (For G.E. Motor 5BC48JB582)	1
5M-2	80-200-00	Ball Bearing - Commutator End	1
5M-3	80-504-00	Ball Bearing - Pulley End	1
5M-4	70-195-00	Set of two armature terminal & brush pair connectors, <u>not used</u> on motor 5BC48JB550 with suffix letter "C" or "D". Two required per motor. (included in 70-188-00)	2
5M-4	70-196-00	Armature terminal & brush pair connector, <u>used only</u> with motor 5BC48JB550 with suffix letter "C" or "D". Two required per motor. (included in 70-184-00).	2
5M-5	70-184-00	Brush holder, without brushes, including brush springs, armature terminal & brush pair connectors. <u>Used only</u> on motor 5BC48JB550 with suffix letter "C" or "D".	1
5M-5	70-188-00	Brush holder, without brushes, including brush springs, armature terminal & brush pair connectors. <u>Not used</u> on motor 5BC48JB550 with suffix letter "C" or "D".	1
5M-6	70-101-00	Motor Brush	4
5M-7	85-412-00	Brush Spring, Torsion	4
5M-8	30-801-00	Brush Inspection Cover	4
5M-9	45-506-00	Oil Seal	1
5M-10	70-210-62	Motor Terminals Insulator Kit	1
Replacement parts for G.E. Motors 5BC48JB251 & 5BC48JB265			
5M-2	80-200-00	Ball Bearing, Commutator End	1
5M-3	80-504-00	Ball Bearing, Pulley End	1
5M-5	70-185-00	Brush Holder Assy.	1
5M-6	70-100-00	Motor Brush	4
5M-7	85-401-00	Brush Spring, Extension	4
5M-9	45-506-00	Oil Seal	1
Replacement Parts For G.E. Motor 5BC48JB726			
	70-204-00	Field Coil Set	1
	80-209-00	Ball Bearing, Commutator End	1
	80-504-00	Ball Bearing, Pulley End	1
	70-172-00	Brush Holder Assy. <u>With</u> Brush Springs But <u>Without</u> Brushes	1
	85-412-00	Spring, Brush	4
	70-104-00	Armature Terminal & Brush Pair Connector	2
	45-506-00	Oil Seal	1

Brush Measurement Procedure For 726 Motor

With new brushes, A 1/16" drill rod can be inserted approximately .76" into brush measurement holes. Brushes should be replaced when rod can be inserted 1.56" into hole. This leaves approx. 1/8" allowable wear remaining.

FIG. I.D.

NO.	T-D PART NO.	DESCRIPTION	QTY.
Replacement Parts for G.E. Motor 5BC48JB67B & 5BC48JB114			
5M-2	80-205-00	Ball Bearing, Commutator End	1
5M-3	80-204-00	Ball Bearing, Pulley End	1
5M-6	70-100-00	Motor Brush Assy	4
5M-7	80-401-00	Brush Spring, Extension	4
Replacement Parts for T.D. Motor 388P3816 & Baldor 45-39W03, 45 39W16, 45-39W19			
5M-2	80-200-00	Ball Bearing, Commutator End	1
5M-3	80-504-00	Ball Bearing, Pulley End	1
5M-5	70-187-00	Brush Head Assy, Complete with Brushes	1
5M-6	70-101-00	Motor Brush	4
5M-8	30-803-00	Brush Inspection Cover	4
5M-9	45-506-00	Oil Seal	1
Replacement Parts for G.E. Motor 5BCG56EA17			
5M-2	80-201-00	Ball Bearing, Commutator End	1
5M-3	80-504-00	Ball Bearing, Pulley End	1
5M-5	70-189-00	Brush Holder Assy	1
5M-6	70-101-00	Motor Brush Assy	4
5M-7	85-412-00	Brush Torsion Spring	4
Replacement Parts for G.E. Motor 5BC49JB122			
5M-2	80-200-00	Ball Bearing, Commutator End	1
5M-3	80-504-00	Ball Bearing, Pulley End	1
5M-4	70-185-00	Brush Holder	1
5M-6	70-100-00	Motor Brush	4
5M-7	85-401-00	Brush Extension Spring	4
5M-9	45-506-00	Oil Seal	1
Replacement Parts for G.E. Motor 5BC49JB305			
5M-1	70-203-00	Field Coil Set	1
5M-2	80-200-00	Ball Bearing, Commutator End	1
5M-3	80-504-00	Ball Bearing, Pulley End	1
5M-4	70-195-00	Armature Terminal to Brush	2
5M-5	70-188-00	Brush Holder assembly	1
5M-6	70-101-00	Motor Brush	4
5M-7	85-412-00	Brush Extension Spring	4
5M-8	30-802-00	Brush Inspection Cover	4
5M-9	45-506-00	Oil Seal	1
5M-10	70-210-62	Motor Terminals Insulator Kit	1

FIG. I.D. NO.	T-D PART NO.	DESCRIPTION	QTY.
Replacement Parts for Taylor-Dunn Motor 388P381A			
5M-2	80-204-00	Ball Bearing, Commutator End	1
5M-3	80-205-00	Ball Bearing, Shaft End	1
5M-5	*70-187-00	Brush Head Assy. Complete with Brushes *Not supplied as original equipment on <u>A</u> series motor but must be used as replacement part.	1
5M-6	*70-102-00	Motor Brush with Wire Hook *Replacement part for original <u>A</u> series motor <u>NOT</u> converted to new brush head assy. 70-187-00.	4
5M-6	70-101-00	Motor Brush for <u>A</u> series motor converted to new brush head 70-187-00.	4
5M-7	*85-413-00	Brush Torsion Spring *Replacement part for original <u>A</u> series motor <u>Not</u> converted to new brush head assy. 70-187-00.	4
5M-9	45-506-00	Oil Seal	1
5M-8	30-802-00	Brush Inspection Cover	1
Replacement Parts for G.E. Motor 5BT1326A96			
5M-2	80-504-00	Ball Bearing, Commutator End	1
5M-3	80-206-00	Ball Bearing, Shaft End	1
5M-5	70-170-00	Brush Holder Assembly	1
5M-6	70-112-00	Dual Motor Brush, One Terminal	4
5M-7	85-398-00	Brush Spring	8
5M-9	45-507-00	Oil Seal	1
Replacement Parts for G.E. Motor 5BT1326B96			
5M-2	80-504-00	Ball Bearing Commutator End	1
5M-3	80-206-00	Ball Bearing, Shaft End	1
5M-5	70-171-00	Brush Holder Assembly	1
5M-6	70-112-00	Dual Motor Brush, One Terminal	4
5M-7	85-398-00	Brush Spring	8
5M-9	45-507-00	Oil Seal	1
Replacement Parts for G.E. Motor 5BC48JB254			
5M-2	80-504-00	Ball Bearing, Pulley End	1
5M-3	80-200-00	Ball Bearing, Brush End	1
5M-5	70-186-00	Brush Head Assy., without Brushes	1
5M-6	70-111-00	Motor Brush, 1/2 x 1-1/4	4
5M-7	86-402-00	Brush Spring	4

MAINTENANCE PROCEDURES
MECHANICAL DISC BRAKE SYSTEM
REFER TO FIGURE - 6

GENERAL:

An all-new mechanically actuated Disc Brake system has been specifically designed into your "Tee-Bird" golf car to provide excellent control of braking capability at all times. The entire system is built for dependable service, long life and minimum maintenance. A major feature of the Taylor-Dunn system is a single point of adjustment for the service brake system and a single adjustment point for the parking brake.

The service brake system consist of a brake pedal, linkage and "Floating Caliper" disc brake assemblies. The parking brake system consist of a separate brake pedal and cable that joins the service brake linkage at the brake linkage x-shaft.

An outstanding feature of disc brakes is that they provide braking action directly proportional to the pressure applied to the brake pedal. This proportional braking is superior to that of drum brakes which are not proportional and tend to "grab" or lock-up more readily. When the vehicle operator depresses the service brake pedal, the braking action is distributed equally to each rear wheel brake system resulting in excellent control of the vehicle during all braking actions. The harder the pedal is depressed, the greater the stopping power of the brakes. When the brake pedal is released, braking action to both wheels ceases equally and positively resulting in minimum brake drag and improved battery energy conservation characteristics.

MAINTENANCE:

The only maintenance required is periodic inspection and adjustment for brake lining wear. Only lubrication required is pressure gun grease at two (2) points on the brake linkage x-shaft.

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.

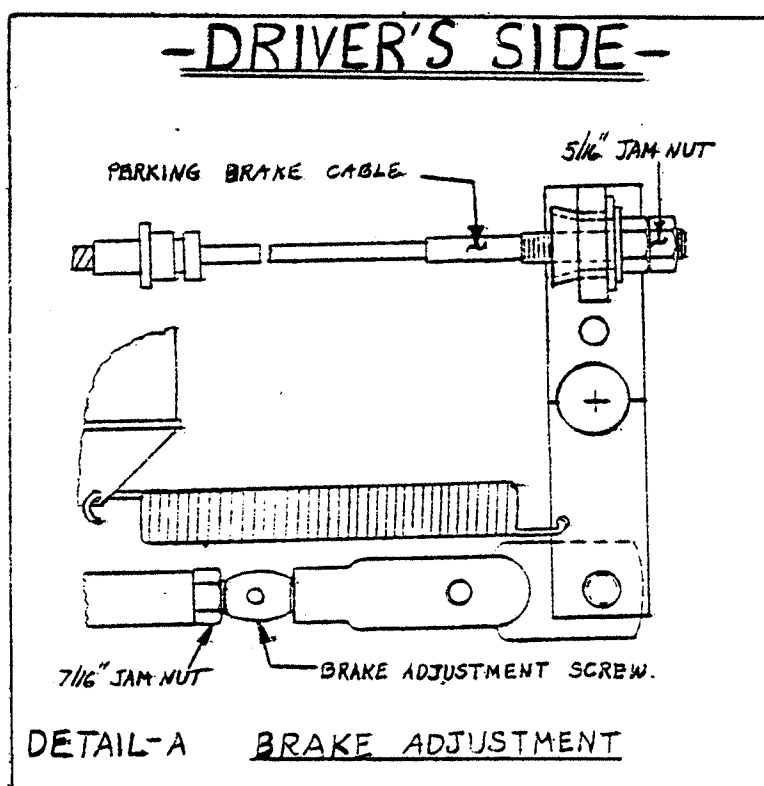
MAINTENANCE PROCEDURES
MECHANICAL DISC BRAKE SYSTEM
REFER TO FIGURE - 6

BRAKE ADJUSTMENT PROCEDURE (DETAIL A)

1. Place car on a level work surface, release parking brake, block front wheels, raise and lock seats in UP position and remove deckboard to provide access to brake linkage.

WARNING:

- a) Before beginning work, place FWD/REV switch in NEUTRAL, turn key to OFF position and disconnect both main battery leads.
- b) Exercise care to prevent the possibility of severe burns when working in close vicinity to EM Switch resistor coils, i.e., car recently driven at low speeds.

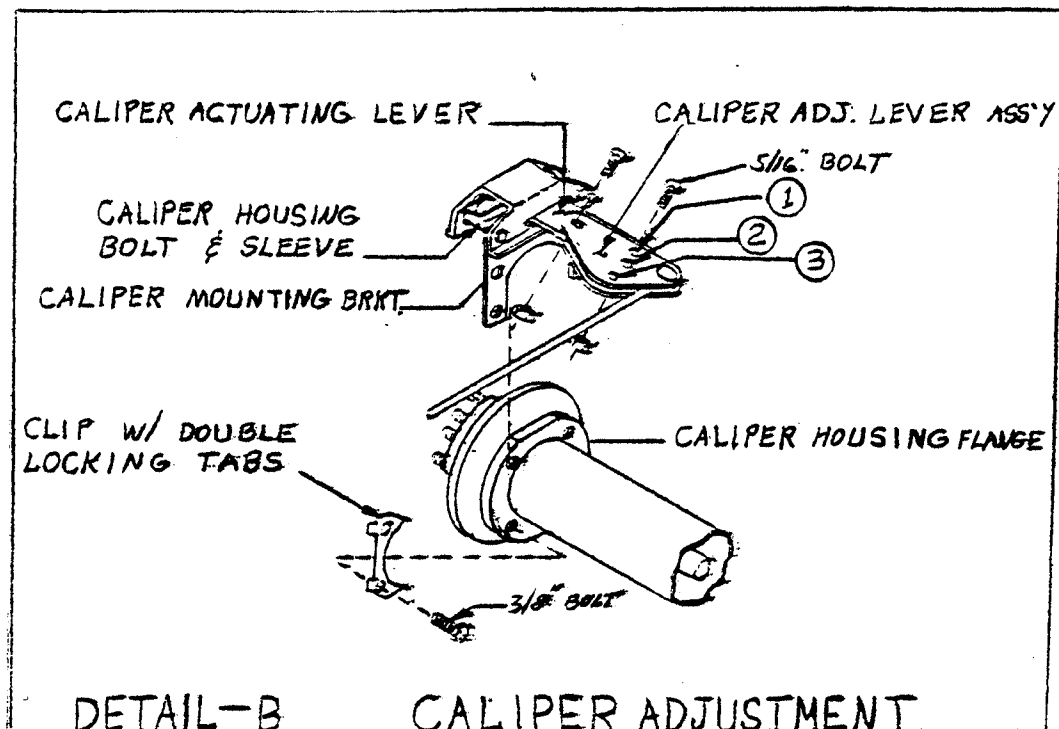


2. Locate brake adjustment screw on drivers side of the car in the area close-by the EM Switch resistor coils. NOTE: The adjusting screw can best be reached from under the car on the driver's side.
3. Loosen adjusting screw jam nut. Now turn adjusting screw counterclockwise until all slack (play) is gone from the linkage.
4. Depress service brake pedal and observe that pedal free travel is no more than $\frac{1}{2}$ of total available pedal travel to floorboard. Correct free travel should be somewhere between $\frac{1}{3}$ and $\frac{1}{2}$ total available travel. Tighten jam nut.

5. In an approved level, dry, test area, drive car at full speed, release accelerator and apply brakes with steadily increasing pressure to a point where brakes lock-up. At this moment, the service brake pedal should be no more than $\frac{1}{2}$ the distance to the floorboard. If the pedal travel is not satisfactory, return the car to the work area and repeat adjustment procedure.
6. After satisfactory results have been attained, tighten adjusting screw jam nut.
7. To adjust parking brake, loosen outer jam nut and tighten inner nut so that all slack in the parking brake cable is taken-up. Now tighten outer jam nut securely. Test parking brake for satisfactory operation.

BRAKE ADJUSTMENT PROCEDURE WHEN ALL BRAKE ADJUSTMENT
SCREW TRAVEL HAS BEEN USED UP (DETAIL B)

1. Follow same procedures as in "Brake Adjustment Procedures" through step #4.
2. Turn brake adjusting screw clockwise all the way so that brake pedal goes all the way to the floor.



3. Remove the outer 5/16" X 1" 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.
4. Now, return to "Brake Adjustment Procedure," step #3 and proceed with adjustment procedure.

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.

PROCEDURE FOR INSPECTING AND/OR REPLACING DISC BRAKE PADS (Detail B)

1. Release park brake and block front wheels. Insure FWD/REV 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.

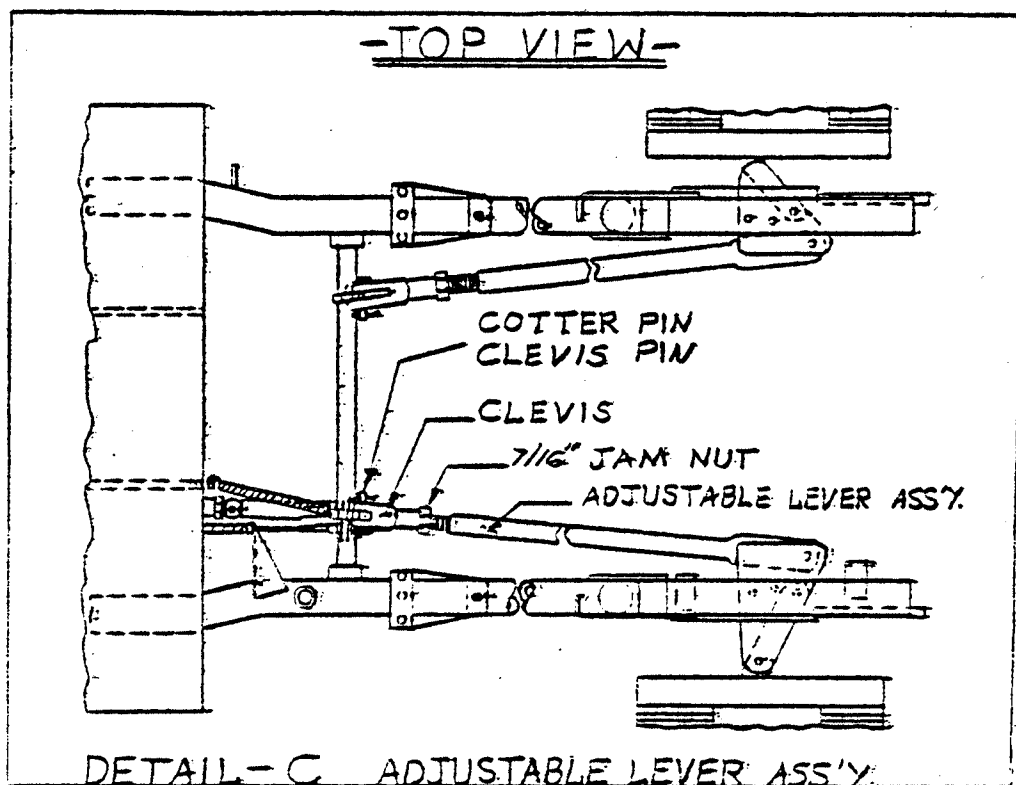
NOTE: Pads must be returned to original position in caliper. Note position before removal.

5. Examine pads for overall condition and wear. All pads must be replaced if any one 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 in caliper body and slide bolt through caliper body and sleeve. Tighten nut to 10 ft. lbs. of torque.
9. Perform same procedures on opposite caliper.
10. Replace wheels on vehicle.
11. Complete brake adjustment per "Brake Adjustment Procedures".

NEW BRAKE PAD INSTALLATION PROCEDURE (Detail A)

1. Turn the brake adjusting screw clockwise so as to position the screw at minimum setting which will allow the brake linkage to become slack.
2. Remove the outer 5/16 bolt from the caliper adjustable lever Assy. and loosen the inner bolt.

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



PROCEDURE FOR CORRECTING UNEVEN BRAKING ACTION (DETAIL -C)

Very occasionally, uneven braking action may occur. Usually the cause can be traced to brake pad contamination, etc.

1. Follow " Procedure for Inspecting and/or Replacing Disc Brake Pads" to insure satisfactory condition of brake pads.
2. If pads are oily or damaged, replace all pads.
3. Take car to test area that is dry and level. Accelerate to full speed, release accelerator pedal, apply steadily increasing brake pressure while noting direction car pulls.

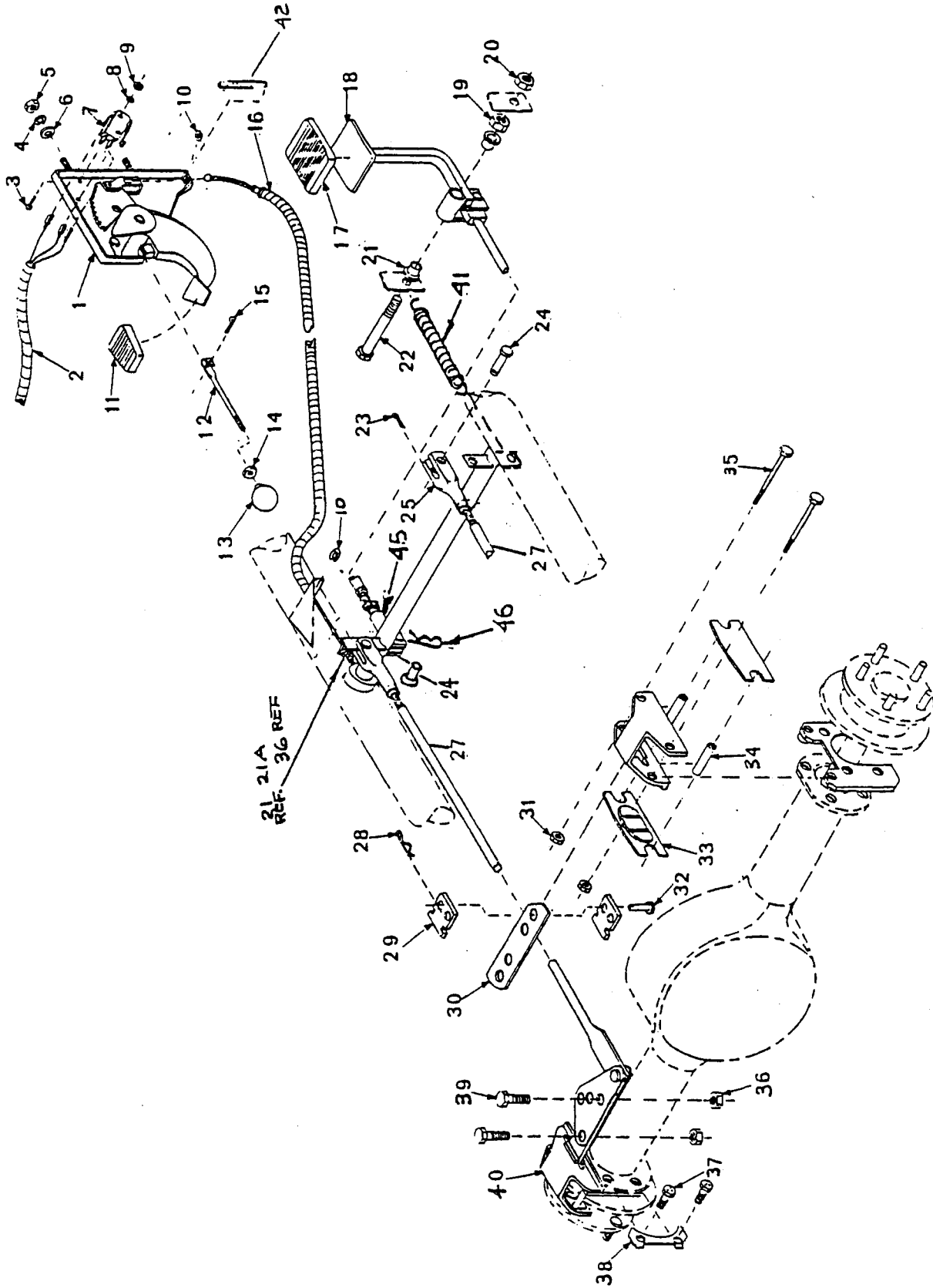
NOTE: Be careful to distinguish between a mechanical problem and loose gravel under one wheel which could give the impression of uneven braking action.

4. When direction of pull has been determined, return car to work area. Place FWD/REV Switch in NEUTRAL, turn key to OFF position.
5. Remove deckboard and observe the two caliper adjustable lever assemblies (one for each caliper) connecting the brake linkage x-shaft to the disc brake caliper actuating lever.
6. If the car pulled left (for example) remove the cotter pin and clevis pin from the adjustable lever assy. clevis on the passenger side. Loosen the jam nut and turn clevis one turn to shorten the linkage over-all length. Re-install clevis pin and cotter pin back in clevis (no need to tighten jam nut).
7. Test drive car for proper braking action. If problem still exist, return car to work area and repeat procedure until satisfactory results are obtained.
8. When braking action is satisfactory, tighten affected jam nut.

CALIPER ASSEMBLY REPLACEMENT PROCEDURE (DETAIL B)

Special Notes:

1. Follow step #1 in "Brake Adjustment Procedure" before proceeding.
2. Be sure to install NEW clips with locking tabs (2) prior to securing caliper mounting bracket to caliper housing flange. Tighten mounting bolts (4) to 10 ft. lbs. torque and insure clip locking tabs are bent up securely against the bolt heads.
3. Always install new brake pads in opposite caliper to prevent uneven breaking action and accelerated wear.



4-1-81	5-26-81	9-15-81	1-15-82
MECHANICAL DISC BRAKE SYSTEM			
TOL: FRAC±			
ANG±			
DEC±			
DO NOT SCALE			
Taylor-Dunn			
2114 WEST BALL ROAD			
ANAHEIM, CALIFORNIA			
92803			
SCALE: NONE			
DWN BY: K.W.			
CHKD BY: J.B.			
FIGURE 6			
SHEET - OF 1			

FIG. I.D. NO.	T-D PART NO.	DESCRIPTION	QTY.
6-1	51-342-20	Assembly, Foot Park Brake with Limit Switch & Release Rod. Order Rubber Pedal Pad Separately	1
6-2	75-006-00	Harness, Buzzer and Interlock	1
6-3	88-004-09	Screw, Round Hd. Mach, 4-40 X 3/4	2
6-4	88-088-62	Washer, Lock 5/16	1
6-5	88-089-80	Nut, Hex, 5/16 N.C.	1
6-6	88-088-60	Washer, 5/16 Cut	1
6-7	71-127-10	Switch, Interlock	1
6-8	88-008-60	Washer, #4 Flat, Plated	1
6-9	88-009-81	Nut, Lock, 4-40	1
6-10	88-847-06	Retainer, E-Ring, 1/2	2
6-11	98-201-10	Pad, Rubber, Park Brake Pedal	1
6-12	50-131-00	Rod, Foot Park Brake Release	1
6-13	95-910-00	Knob, Red	1
6-14	88-069-80	Nut, Hex 1/2 N.C.	1
6-15	88-527-06	Pin, Cotter, 1/8 X 1/2	1
6-16	41-348-71	Assembly, Park Brake Cable	1
6-17	98-200-00	Pad, Rubber, Brake Pedal	1
6-18	00-371-17	Assembly, Brake Pedal	1
6-19	88-149-80	Nut, Hex, 1/2 N.C.	1
6-20	88-149-81	Nut, Hex Lock, 1/2 N.C.	2
6-21	32-215-00	Bushing, Plastic with Flange	2
6-22	88-140-22	Bolt, Hex Cap, 1/2 X 3-1/2 N.C.	1
6-23	88-517-11	Pin, Cotter, 3/32 X 1	1
6-24	96-773-00	Pin, Clevis 5/16	2
6-25	96-763-00	Clevis, 7/16	2
6-27	50-668-00	Assembly, Adjustable Lever	2
6-28	41-348-56	Pin, Hitch	1
6-29	41-348-54	Plate, Pivot	4
6-30	41-348-51	Lever, Actuating	2
6-31	41-348-58	Nut, Hex 1/2, Heat Treated	4
6-32	41-348-55	Pin, Clevis	2
6-33	41-348-70	Pad, Disc Brake	4
6-34	41-348-52	Spacer	4
6-35	88-067-18	Screw, Hex Head 1/2 X 2 1/2, Grade 8	4
6-36	88-089-81	Nut, Hex Lock 5/16	4
6-37	96-328-00	Bolt, Special Hd., 3/8 X 5/8, Gd.5	8
6-38	41-348-59	Clip, W/ Double Locking Tabs	4
6-39	88-081-11	Screw, Hex Hd, 5/16 X 1 NC, GD 5	8
6-40	41-348-98	Assembly Brake, Mech. Caliper, L.H.	1
	41-348-99	Assembly, Brake, Mech. Caliper, R.H.	1
6-41	85-295-00	Spring	1
6-42	85-296-00	Spring, Park Brake Pedal Return	1
6-43	97-212-00	Nut, Tinnerman	1
6-44	88-837-09	Screw, Phillips Sheet Metal, #14 X 3/4	1
6-45	00-371-19	Adjustor, Serew and Fitting	1
6-46	97-300-10	Hair Pin, Cotter, 5/16 Stainless Steel	1

MAINTENANCE, SERVICE AND PARTS
EM MASTER CONTROL SWITCH 61-845-45
REFER TO FIGURE 9

GENERAL:

The Em Master Control Switch is located below the seat, and is readily accessible when the seat is raised. The left side, operated by the hand lever which projects into the passenger compartment, controls direction of travel. The right side, operated by the accelerator pedal, controls the vehicle speed by regulating the voltage applied to the motor, using coils of nichrome resistance wire.

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 at the connection.

The nuts which secure the wire terminals to the contact buttons on the forward/reverse rotor must NOT be used to tighten the contact buttons to the rotor board. The contact buttons must be free to rotate in order to avoid wire breakage.

MAINTENANCE:

CAUTION: Before working on EM Master Control Switch or any part of the vehicle electrical system, disconnect both main battery leads, place Forward/Reverse Switch in NEUTRAL, turn key OFF and remove from switch. Set Parking Brake.

On a Monthly Basis:

Cleaning Procedure:

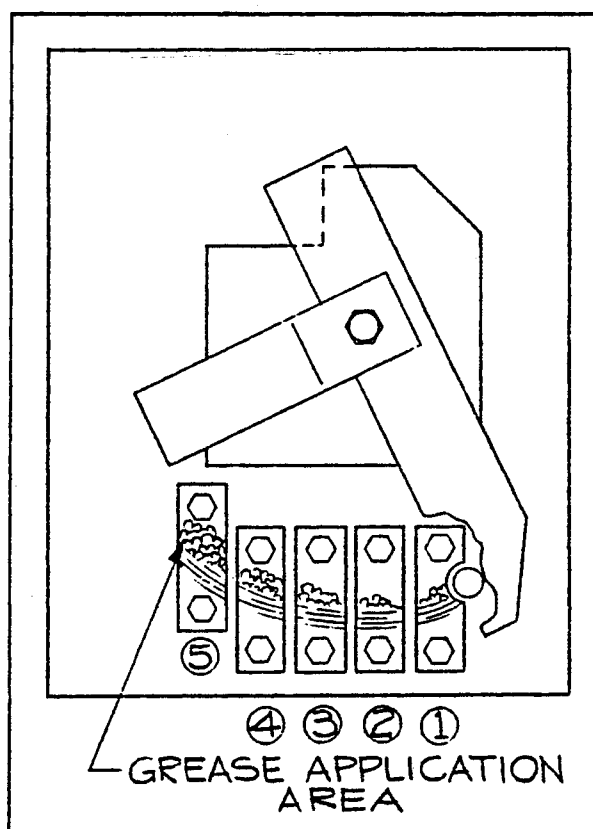
Clean grease and contaminants off Contact Plate and Power Bar area with a rag or by power wash (steam) cleaning. CAUTION: Make certain that Forward/Reverse switch is in NEUTRAL before cleaning and DO NOT use a flammable agent to clean switch component parts or any electrical part of the vehicle. Clean the areas between the Power Bars with an electrically non-conductive device such as a wooden stick, piece of plastic, ear swab, etc. Contaminated grease and foreign matter lodged between the Power Bars can cause shorting across the Power Bars and result in faulty vehicle operation.

Lubricating Procedure (61-845-45 EM Switch only):

CAUTION: Do Not use this lubricating procedure on earlier model switches without solenoid.

Apply a small quantity (between 1/3 and 1/2 oz.) of Taylor-Dunn Grease 94-421-00 to the Power Bars and Speed Control Plate. A medium-soft, non-metallic paint brush (no metal band) makes an ideal grease applicator. WARNING: Do Not apply grease to switch with any object that contains metal or is electrically conductive.

Apply a very small portion of the grease to and slightly above the path wiped by the Lower Contact Button as it passes over the Power Bars. To achieve maximum lubricating results, concentrate a greater amount of the grease on Power Bars 4 and 5. (See illustration below).



NOTE: 1) Overall, EM Switch 61-845-45 runs cooler than its predecessors due to design improvements. Power Bars 1,2 and 3 operate at a relatively cool temperature. This was achieved by reducing electrical arcing to an absolute minimum at switch turn ON/OFF plus low heat build-up design. Power Bars 4 and 5 (full speed) generate relatively more heat than Bars 1,2 and 3. The net result is that grease on Power Bars 1,2 and 3 does not tend to flow and spread evenly. Conversely, grease on Power Bars 4 and 5 tends to melt sufficiently so that the lower Power Button can spread it evenly across the entire contact area. In summary, grease properly applied will result in better lubrication and longer switch life.

NOTE: (CONT'D)

- 2) Taylor-Dunn grease, Part No. 94-421-00, is highly recommended as the best lubricant for Taylor-Dunn Master Control Switches. This grease possesses superior lubricating characteristics coupled with a very high drop point of 500° F. It will not burn or melt as readily as other commercial greases and tends to maintain its consistency for a longer period of time.

Routine Maintenance:

While cleaning and lubricating the switch, make a careful check for loose nuts and bolts, particularly in the area of the power resistors. Loose connections at the power resistors can result in corrosion and burning of the resistors. The only two (2) wires that should be free to turn are the Forward/Reverse Switch leads. Another important check is the wire connections on top of the solenoid. Loose connections can cause failure of the solenoid due to overheating, corrosion, etc. Over-tightened connections can result in cracked or broken cases causing eventual failure of the solenoid. To insure the wire connections are properly connected to the solenoid, carefully apply 90 inch pounds of torque to the 5/16" stud nuts and 50 inch pounds of torque to the 3/16" stud nuts. Connections should be snug with lock washers fully compressed. Remember, excessive torque is just as bad as having a loose connection.

CAUTION: Before repairing or adjusting this switch, always disconnect both the positive and negative battery leads.

This is also an ideal time to check other key vehicle components such as batteries, tires, drive belts, chains, etc. Be sure to consult Section D for maintenance guide information.

On a Weekly Basis:

Check switch contact path on plate and power bars for lubricant presence. If required, apply more lubricant (No. 94-421-00). Also check for contaminants. Heavy concentrations of dirt, grass, sand or the like should be cleaned out as outlined in monthly maintenance.

Clean and check batteries as outlined in the maintenance manual. Look for loose wire connections and corrosion at terminals.

Adjustment of Speed Rotor Travel - EM Switch (Refer to Diagram B):

NOTE: Rotor travel adjustment is set at the factory and will require adjustment only if the vehicle is subjected to severe damage or if a new switch assembly is installed.

1. Adjust pedal stop bolt so that when the bolt head contacts the floor mat there is 1/4" clearance between the accelerator pedal extension and the rear of the floor panel. (See Diagram B)
2. Block accelerator pedal in full ON position with pedal stop bolt in contact with floor mat.
3. Adjust the "rod end" of the Adjustable Accelerator Link so that the lower contact button clears the 4th speed bar by 1/8". This will insure approximately 95% of the contact button is touching the high speed bar.

Adjustment of Speed Rotor Travel - EM Switch (Con't)

4. Remove blocking and operate accelerator pedal several times, using normal force. Re-check position of the lower contact button with pedal fully depressed. If it fails to clear the 4th speed bar by $\frac{1}{8}$ ", re-adjust the rod end position accordingly and re-check the clearance again after operating the pedal. Continue re-adjusting as necessary until the desired condition is obtained and remains constant. **NOTE:** The lower contact button should not travel beyond the 5th speed power bar.
5. With the pedal in neutral position, the lower contact button must clear the 1st speed bar by a minimum of $\frac{1}{8}$ " and rest on the neutral button. This condition should automatically occur when the high speed adjustment is properly set.

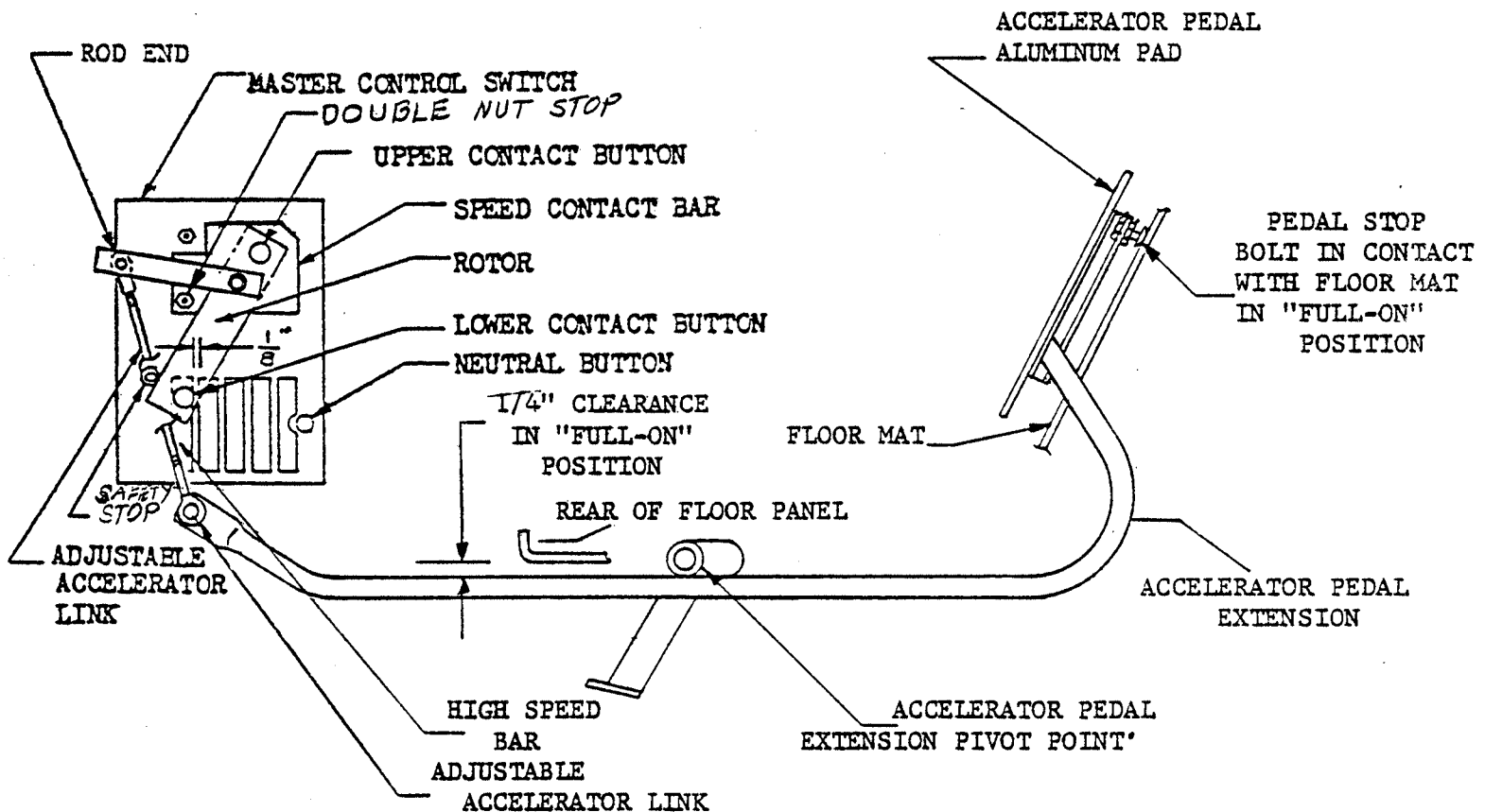
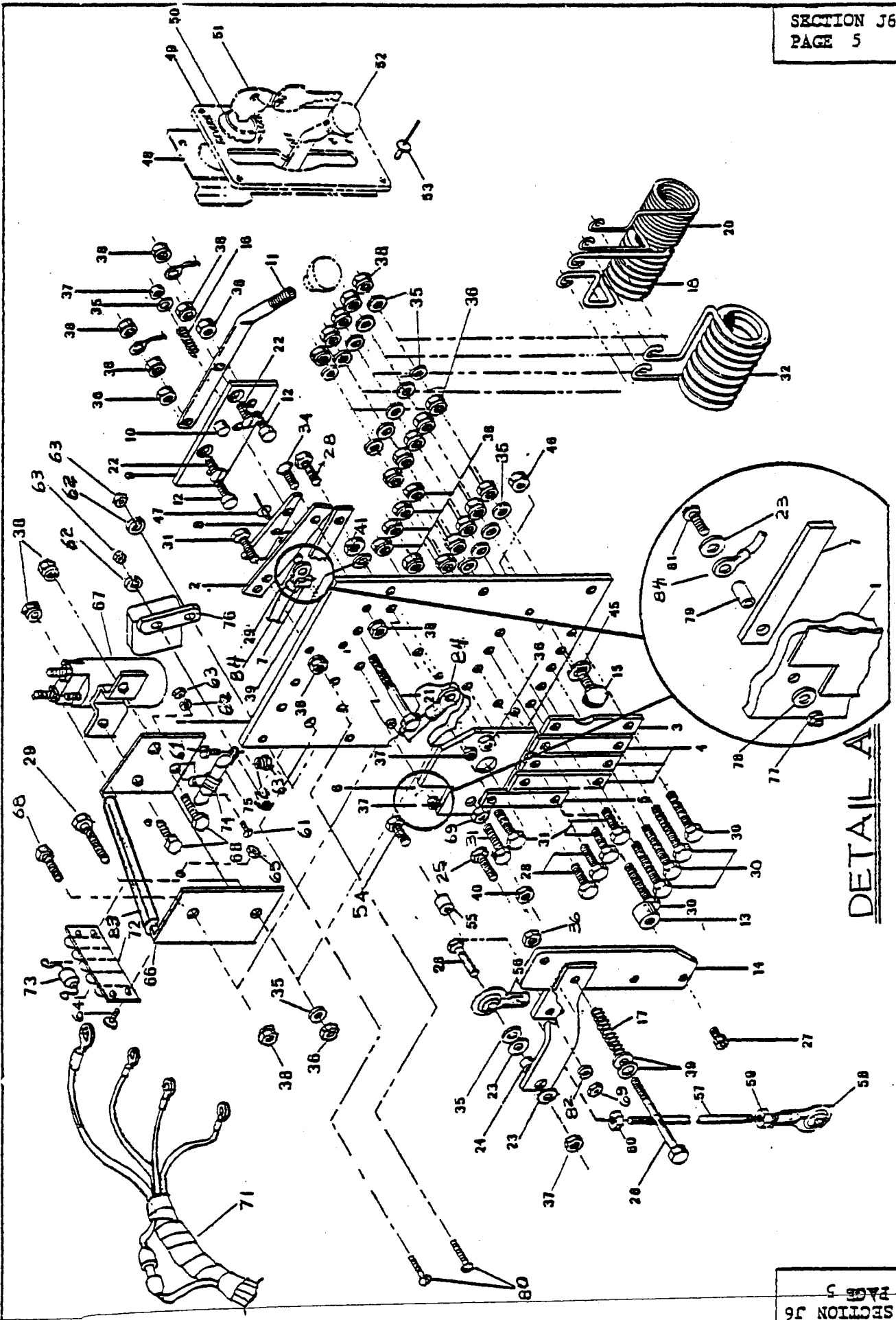


Diagram B - Rotor Travel Adjustment - EM Switch
(In Full-On Position)



DETAIL A

LENGTH QUANTITY REVISED DATE REVISION

MASTER CONTROL SWITCH WITH SOLENOID

TAYLOR DU MFG. CO.
2114 W. 11TH ST.
ST. LOUIS, MO. 63108

FIGURE 9

SECTION J6
PAGE 5

NO. DESCRIPTION

TOL. FRAC. ± DEC. ±

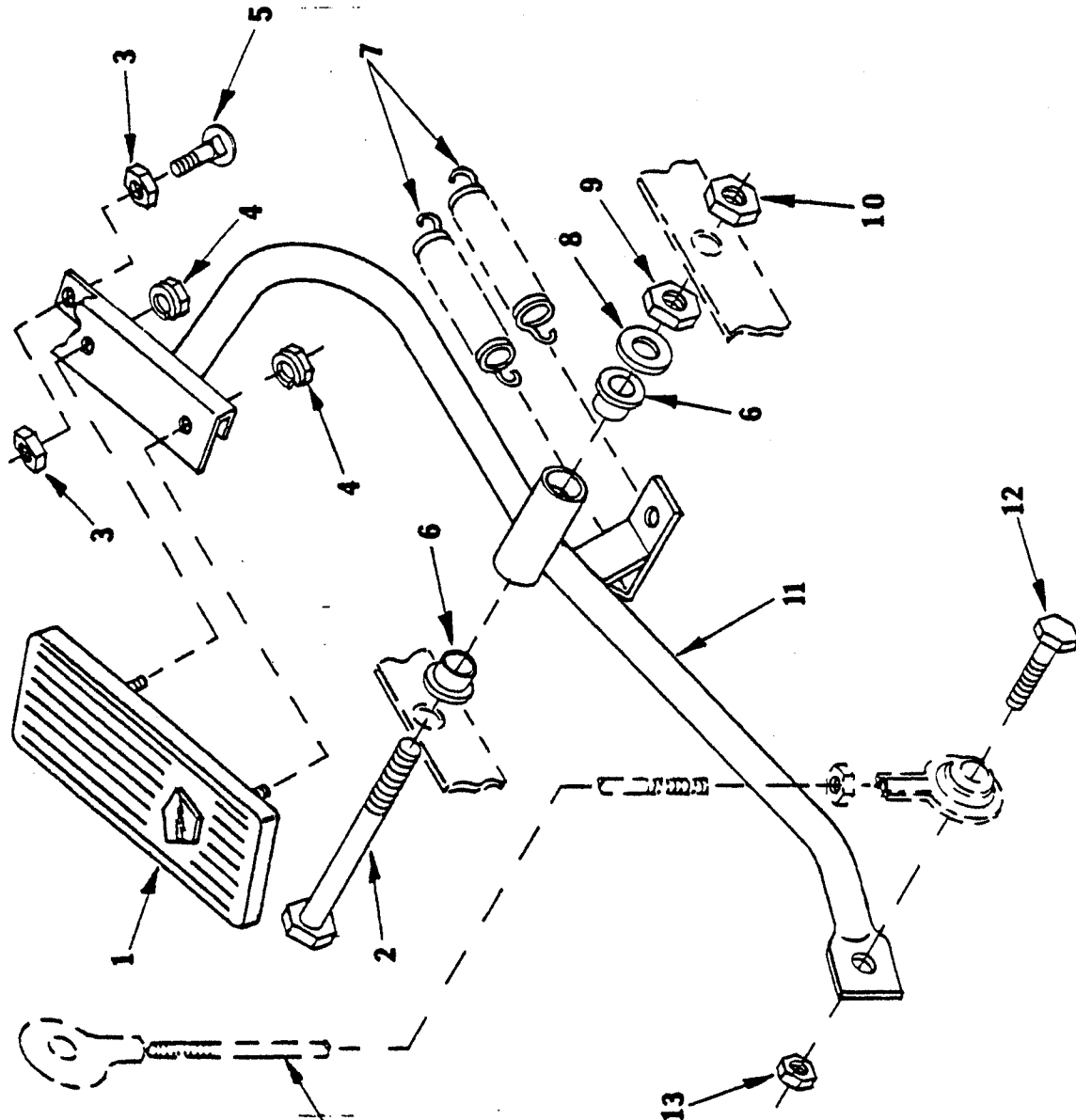
SCALE N 1E

MASTER CONTROL SWITCH - WITH SOLENOID & BUZZER
REFER TO FIGURE 9

FIG. I.D. NO.	T-D PART NO.	DESCRIPTION	QTY. REQ.
9-0	61-845-45	Master Control Sw. W/Solenoid & Ft Park Brake Buzzer	1
9-1	61-845-01	Mounting Board, EM Master Control Switch	1
9-2	61-831-10	Power Bar With Countersunk Hole	1
9-3	61-831-12	Power Bar With Notch	1
9-4	61-831-13	Power Bar	4
9-6	61-831-20	Speed Contact Plate	1
9-7	61-840-00	Forward/Reverse Power Bar	1
9-8	61-839-51	Neutral Board	1
9-9	61-846-50	Rotor Board	1
9-10	61-846-51	Stabilizer Button	1
9-11	61-841-00	Handle	1
9-12	71-030-58	Contact Button	2
9-13	61-849-50	Contact Button	1
9-14	61-849-55	Rotor Arm for Switch 61-845-45	1
9-15	88-102-11	Neutral Button (3/8 x 1 Carriage Bolt)	1
9-16	85-034-00	Spring 7/16 x 2	1
9-17	85-060-00	Spring 5/8 x 2-1/2	1
9-18	78-212-63	Resistor Coil #5 Wire - 6 Turns	1
9-20	78-212-51	Resistor Coil #9 Wire - 10 Turns	1
9-21	88-060-20	1/4 NC x 3 Hex Head Cap Screw	1
9-22	88-066-09	1/4 NC x 3/4 Flat Head Machine Screw	2
9-23	97-170-00	Washer, Insulated	3
9-24	32-212-50	Plastic Bushing, 1/4 ID x 1/4 Long	1
9-25	96-300-09	Bronze Bolt	1
9-26	88-081-22	5/16 NC x 3-1/2 Hex Head Cap Screw	1
9-27	88-047-06	10-32 x 1/2 Socket Head Cap Screw	1
9-28	88-060-11	1/4 NC x 1 Hex Head Cap Screw	4
9-29	88-060-13	1/4 NC x 1-1/4 Hex Head Cap Screw	2
9-30	88-067-20	1/4 NC x 3 Hex Head Tap Bolt	4
9-31	88-060-14	1/4 NC x 1-1/2 Hex Head Cap Screw	5
9-32	78-212-62	Resistor Coil #8 - 8 Turns	1
9-34	88-066-11	1/4 NC x 1 FH Machine Screw	1
9-35	88-068-61	1/4 SAE Washer	7
9-36	88-069-80	1/4 NC Hex Nut	3
9-37	88-069-81	1/4 NC Hex Lock Nut	2
9-38	88-069-87	1/4 NC Fastite Nut	33
9-39	88-088-60	5/16 Flat Washer	3
9-40	88-089-91	5/16 NC Hex Head Jam Nut	1
9-41	88-089-81	5/16 Hex Lock Nut	1
9-45	97-173-00	Washer, Aluminum	1
9-46	88-109-87	3/8 NC Fastite Nut	1

MASTER CONTROL SWITCH - WITH SOLENOID & BUZZER
REFER TO FIGURE 9

FIG. I.D. NO.	T-D PART NO.	DESCRIPTION	QTY. REQ.
9-47	88-737-11	Aluminum Rivet, 3/16 Dia. x 1" Long	1
9-48	97-314-10	Lock Plate & Lock Cylinder Assy.	1
9-49	94-307-00	Forward/Reverse Switch Plate	1
9-50	71-040-55	Lock Assy. with Two Keys	1
9-51	71-040-74	Key Only (Give Lock No. or Vehicle Serial No.)	1
9-52	95-907-00	Plastic Knob	1
9-53	88-727-06	Aluminum Rivet 5/32 Dia. x 1/2 Long	4
9-54	96-302-01	Screw, Bronze 5/16 NC x 1 Hex Head	1
9-55	61-849-51	Spacer, Rotor Contactor	1
9-56	86-503-99	Rod End, Spherical Bearing - Right Hand Thread	1
9-57	50-002-00	Rod, Accelerator Adjusting, 4-1/8 Long	1
9-58	86-503-98	Rod End, Spherical Bearing - Left Hand Thread	1
9-59	97-211-00	Nut, 1/4 NF Left Hand Thread	1
9-60	88-079-80	1/4-28 NF Hex Nut	1
9-61	88-025-06	Screw, Machine, Truss Head, 8-32 x 1/2	3
9-62	88-028-62	Washer, Lock, #8	5
9-63	88-029-80	Nut, Hex, 8-32	5
9-64	88-014-08	Screw, Machine, Round Head, 6-32 NC x 5/8	2
9-65	88-019-86	6-32 NC Hex Nut	2
9-66	72-555-00	Bracket - Solenoid Mount	1
9-67	72-501-10	Solenoid	1
9-68	88-060-09	1/4 x 3/4 NC Hex Head Cap Screw	3
9-69	88-089-80	5/16 Hex Nut	2
9-70	75-231-00	Battery Jumper	1
9-71	751130-00	Harness, Wiring	1
9-72	79-865-00	Terminal Strip, 4 Place	1
9-73	79-730-00	Diodes, 6 AMP	1
9-74	96-630-00	Clamp, 5/8 I.D.	1
9-75	78-301-00	Resistor, 25 OHM, 50 Watt	1
9-76	73-006-00	Buzzer	1
9-77	88-049-86	10-32 Flexlock Nut	1
9-78	88-048-61	#10 SAE Washer	1
9-79	32-209-00	Bushing, Teflon 1/4" OD x .031 Wall x 3/4" Long	1
9-80	88-025-09	Screw, Machine, Truss Head, 8-32 x 3/4	2
9-81	88-045-11	10-32 x 1 Truss Head Machine Screw	1
9-82	88-088-62	Washer, Lock, 5/16	1
9-83	94-035-11	Strip, Plastic Trim, 3-1/2 Long	1
9-84	75-206-50	Wire, Jumper, 4-1/2 Long	1
(Not Shown)	96-603-00	Clamp, Cable Tie, 14"	1
(Not Shown)	75-234-00	Jumper, Battery	1



SEE FIGURE 9

6-4-80

ACCELERATOR LINKAGE

Taylor-Dunn
2114 WEST BALL ROAD
ANAHEIM, CALIFORNIA
92803



FIGURE 9A
SECTION
DWN BY: J.M.
CHKD BY: J.B.

ACCELERATOR LINKAGE
REFER TO FIGURE 9A

FIG. I.D. NO.	T-D PART NO.	DESCRIPTION	QTY.
9A-1	98-254-00	Pad, Aluminum Accelerator Pedal	1
9A-2	88-147-24	Bolt, Hex Head Cap 1/2 x 4 N.C., Stainless Steel	1
9A-3	88-089-80	Nut, Hex 5/16 N.C.	2
9A-4	88-069-87	Nut, Fastite 1/4 N.C.	2
9A-5	88-082-13	Bolt, Carriage 5/16 x 1-1/4 N.C.	1
9A-6	32-215-00	Bushing, Plastic with Flange	2
9A-7	85-233-00	Spring, Accelerator Return	2
9A-8	88-148-61	Washer, 1/2 SAE	1
9A-9	88-149-80	Nut, Hex 1/2 N.C.	1
9A-10	88-149-81	Nut, Lock 1/2 N.C.	1
9A-11	88-109-81	Nut, Lock 3/8 N.C.	1
9A-12	88-060-13	Screw, Hex Head Cap 1/4 x 1-1/4 N.C.	1
9A-13	88-069-81	Nut, Hex Lock 1/4 N.C.	1

MAINTENANCE PROCEDURES
GENERAL ELECTRICAL SYSTEM

Your electrical system has been installed with care, utilizing quality materials for safe trouble free service. Proper fuses have been located where necessary to prevent unsafe overloads and protect the wiring from being damage from short circuits.

Little care will be required, except for an occasional visual inspection for loose connections or some unusual condition causing the insulation to be rubbed off on a wire.

Normal replacement parts such as light bulbs, fuses, flasher, etc., have been arranged for simple changing by plug in devices or conveniently located terminals

CAUTION: A blown fuse is usually indicative of a short circuit or faulty device. Care should be exercised to remove the faulty condition before replacing fuse. DO NOT place larger capacity fuses or "jumpers" to overcome the condition as serious wiring damage can occur.

Refer to the following sections for more detailed information on the main power and electrical components:

- Section G - Wiring Diagram
- Section J2M - Motor
- Section J6 - Speed Control and Main Power Switching
- Section J8 - Batteries and Charger

Refer to the following page for a listing of electrical parts.

ELECTRICAL PARTS

T-D PART NO.	DESCRIPTION	QTY.
71-100-00	Light Switch	1
71-111-00	Brake Light Switch (Mechanical Operation)	1
71-130-00	Micro Switch	1
72-005-00	Chrome Headlight Fixture with 4" Sealed Beam Bulb	1
72-407-00	Headlight Mounting Bracket	1
72-072-00	4" Sealed Beam Headlight Bulb	1
73-004-00	Horn, 12 Volt	1
72-022-00	Taillight or Tail/Stop Light Fixture, 4" Rubber Mount	1
75-082-00	Accessory Wiring Harness (Horn & Lights)	1
75-081-00	Power Wiring Harness	1
77-200-00	Hydrometer	1
77-201-00	Battery Filler	1
78-010-00	Secondary Fuse and Holder - Inline Type	1
79-823-00	20 Amp Fuse to Fit Fuse Holder	1
75-231-00	Battery Jumper - #6 Wire - 10-1/4 Long with Terminals	5
75-234-00	Battery Jumper - #6 Wire - 18-1/4 Long with Terminals (One Used to Connect Battery Positive to F/R Switch)	2
79-844-00	Circuit Breaker	1
76-012-00	Charging Receptacle	1
76-002-00	Charging Plug	1
74-007-00	Cigarette Lighter	1
50-225-00	Wiring Harness Support Rod - 1/4" Dia.	1
88-577-90	1/4" Dia. Push On Cap Fro Wiring Harness Support	1

MAINTENANCE PROCEDURES
BATTERIES

WARNING: Lead acid batteries continuously emit highly explosive gases. Flame or sparks must be kept away from the batteries at all times.

This emission is greatly increased during the charging process. Any area in which charging batteries are confined must be well ventilated, and flame or sparks must be kept out of the charging area and away from ventilator openings. DO NOT disturb battery connections while batteries are being charged.

The lead acid battery (or batteries) will furnish all power required by your vehicle. Two types are generally employed. The electric vehicle type battery pack, commonly used, can be expected to have a life of approximately 2 years, or 350 to 400 cycles. One cycle is the discharging and charging of the battery within proper limits. The heavy duty industrial type of battery has a life of approximately 7½ years, or 1800 cycles, with appropriate use and care.

It cannot be over emphasized how important good maintenance procedures and careful care of your batteries will affect their useful life. It is therefore recommended that a comprehensive maintenance program be established and adhered to throughout the life of your vehicle. A 5 point program is outlined below to assist you in understanding and establishing good battery care.

1. CORRECT CHARGING

Poor charging practices are responsible for more short battery life than any one other item. The charging equipment must be properly maintained and adjusted to give a charge which the battery will accept with maximum efficiency. Two things are involved in correct charging. These are the charging rate in amperes and the termination of the charge at the correct time. No amount of overcharging will increase the battery capacity or raise the specific gravity above its full charged condition.

Overcharging will reduce battery life. Undercharging will cause poor vehicle performance, and shorten the life of all electrical components, including the batteries. Refer to Service and Adjustment, Section J8, for proper methods to determine charge condition.

2. DISCHARGING - CAPACITY

Batteries are commonly rated in ampere hours at the six hour discharge rate to a final voltage of 1.75 per cell. They will deliver additional capacity in an emergency, but should not be required to do so regularly. The best way to avoid discharging is to prepare a rigid schedule for charging batteries which will insure against their being discharged beyond the limits of their capability.

3. WATERING

Water must be replaced from time to time. The frequency and quantity depends upon the watering space above the plates and the amount of gassing which the battery does on charge. Only approved or distilled water should be added to the battery. Water should be added after hydrometer or voltmeter readings have been taken. The liquid level within the battery raises as the gassing occurs. Thus filling after charging minimizes over-filling. However, the water level should cover the plates prior to charging.

MAINTENANCE PROCEDURES
BATTERIES

4. CLEANING

Batteries pick up various kinds of dirt and dust, depending on their surroundings and the type of service they are subject to. This is usually dry dirt, which can readily be blown off with low pressure air or brushed off. However, if cells are overfilled and electrolyte collects on the covers, the top of the battery becomes wet and stays wet, since the acid in the electrolyte does not evaporate. This moist surface in combination with certain kinds of dirt becomes electrically conductive and permits stray currents to flow externally over the top of the battery. These currents cause corrosion of cell posts, nuts, connectors and steel trays, which eventually become troublesome and expensive to repair.

When wet dirt accumulates on top of the battery, remove it by washing the battery with a strong solution of baking soda and hot water (1 lb. of soda to 1/2 gallon of water). A convenient brush to use is one having flexible bristles like an old paint brush. Continue the application of the soda solution until all fizzing stops, which indicates that the acid has been neutralized. Then rinse thoroughly with clear water.

Wet covers can be indication of overfilling, leaky seals at posts and covers or of excessive gassing during charge. When observed the cause should be determined and the abusive conditions corrected.

5. RECORDS

A battery record system is recommended for all vehicles. It is considered essential for large operations, and where minimum battery operating cost is desired. A properly supervised record system can be made to detect and call attention to such operating irregularities as:

- a. Overcharging
- b. Undercharging
- c. Overdischarging
- d. Excessive Water Consumption
- e. Cleanliness
- f. Worn out Batteries
- g. Excessive Current Consumption on Trucks

It is not advisable to allow a battery to stand for a long period of time in a low state of charge. Doing so subjects the battery to excessive plate erosion and in cold climate conditions the electrolyte will freeze at a much higher temperature. For example, a fully charged battery will not freeze at temperatures near 60° below zero. Yet a battery in a very low state of charge may freeze at temperatures around 10° to 15° above zero.

A battery not in use maintains small amounts of chemical action which slowly tends to dissipate the charged condition. It is wise to re-charge a battery not in use every 1 to 2 months. If possible store the battery in a cool place, as the self discharge rate is increased with warmer temperatures.

MAINTENANCE PROCEDURES
BATTERIES

6. Winter Storage

- a. Before storing your vehicles in a sheltered area for the Winter Season, clean and check the charge level of the batteries according to the information contained in paragraphs 4 and 5 this section.

WARNING: Before service personnel service the batteries, disconnect both main battery leads, place the Forward/Reverse Switch in Neutral, turn the key OFF and remove from switch. Set the parking brake. Service personnel should wear proper clothing and eye protection

- b. Although not required, the following information is provided as a good maintenance practice to be followed when and where practical to perform.

1. Remove the batteries from the vehicles for cleaning.
2. Clean batteries according to instructions in Para. 4.
3. Clean heavy corrosion from each battery post and cable terminal with a wire brush.
4. Using baking soda and hot water solution, neutralize all battery acid corrosion in battery compartment. If necessary, use a wire brush on severe corrosion areas.
5. Flush battery compartment area with fresh water and dry compartment area thoroughly.
6. Paint or apply light film of petroleum jelly to exposed metal surfaces.
7. After battery compartment has been properly treated reinstall batteries while taking special care to properly connect battery cables.

WARNING: Improper connection could cause a battery explosion and possibly result in personal injury and/or damage to the vehicle.

8. Check battery charge state according to information contained in Paragraph 5 this section.

VEHICLE NO. MBATTERY MAINTENANCE RECORD

Battery No.	Cell No.	Date		Date		Date		Date		Date	
		Water OK or Low	Gravity Before Charge	Gravity After Charge	Water OK or Low	Gravity Before Charge	Gravity After Charge	Water OK or Low	Gravity Before Charge	Gravity After Charge	Water OK or Low
1	1										
	2										
	3										
2	1										
	2										
	3										
3	1										
	2										
	3										
4	1										
	2										
	3										
5	1										
	2										
	3										
6	1										
	2										
	3										

- CAUTION: Batteries emit explosive gases. During normal operation the concentration of these gases is rarely sufficient to be considered dangerous unless flame or sparks occur in the battery compartment close to the vent holes in the battery caps. It is important that this not be allowed to occur at anytime. During the charging process, emissions are greatly increased. Any area in which charging batteries are confined must be well ventilated, and flame, sparks, or lighted cigarettes must be kept out of the charging area and away from ventilator openings associated with the charging area. Battery connections must not be disturbed while batteries are being charged.
- Do not fill an uncharged battery. Bring water level up to just cover the plates, and complete filling after battery is fully charged. Use distilled water. Fill only to level indicated on battery.
- Batteries which require unusually frequent watering may indicate overcharging. Review charging practices and/or adjustment of transformer taps in charger.
- Gravity should be kept between 1175 (30% charged) and 1260 (100% charged), and gravity readings of all cells should be within 10 point range. When they are not, an equalizing charge should be applied. Refer to information under "Charging Time Chart" in Charger Handbook.
- Periodically check for loose terminal posts or loose connections to terminal posts, but not while batteries are being charged.
- Keep tops of batteries clean, and free of moisture, grease, and acid films. Any of these can cause current leakage.
- Keep weekly (or oftener) record as shown in above sample chart, for a new vehicle or when charging results seem unsatisfactory, until satisfactory charging continues for a four week period, then keep record on a monthly basis.

BATTERIES AND CHARGER

T-D PART NO.	DESCRIPTION	QTY.
75-231-00	Battery Jumper #6 Wire, 10-1/4" Long	3
75-234-00	Battery Jumper #6 Wire, 18-1/4" Long	3
76-012-00	Charging Receptacle, 30 AMP, 3 Prong	1
77-031-00	6 Volt, 190 A.H. Battery	6
77-042-00	6 Volt, 217 A.H. Battery	6
77-047-00	6 Volt, 244 A.H. Battery	6
77-200-00	Hydrometer	1
77-201-00	Battery Filler	1
79-332-30	Portable Charger, 36 Volt, 25 AMP, Line Compensated	1
79-320-00	Portable Charger, 36 Volt, 20 AMP, Automatic	1
79-322-00	Portable Charger, 36 Volt, 20 AMP, Transistorized	1
79-333-00	Portable Charger, 36 Volt, 30 AMP, Transistorized	1
79-337-00	Built-In Charger, 36 Volt, 30 AMP, Transistorized	1
74-005-00	Charge Indicator, 36 Volt	1
79-337-55	Cabinet, Console for Built-In Charger 79-337-00	1

SERVICE AND ADJUSTMENTS
BATTERY CHARGER

INTRODUCTION

This section describes the operation, trouble-shooting and repair of the CHRISTIE Series A and T Battery Chargers. They are designed for safe and efficient daily charging of batteries. Chargers may be furnished as a portable cabinet or of a type built-into the vehicle.

SPECIFICATIONS

"A" SERIES

Portable	MODEL	A-C Volts	A-C Amps	Batt Amp Hrs*	D-C Volts	D-C Amps
	Built-In					
2420A	2420A-C/2420A-SS/2420AB	115	5	130/170	24	20
3620A	3620A-C/3620AB	115	9	130/170	36	20
	2410A	115	2.5	90	24	10

"T" SERIES

2420T	2420T-C	115	5	130/220	24	20
2430T	2430T-C/2430TB	115	7	170/250	24	30
3620T/T3620T	T3620TG/T3620T-C T3620TB	115	9	130/220	36	20
3630T/T3630T	T3630TG/T3630T-C T3630TB	115	10	170/250	36	30
4820T		115	10	130/220	48	20

*Higher capacity batteries may be charged if longer than 12 hours recharge time is available.

CHARGING CHARACTERISTICS

Series A - This charger uses a constant potential method of recharging. This means the charger output voltage is held relatively constant through the charge cycle. Since the rate of charge is a function of the difference between charger output voltage and battery voltage, the charger output current is reduced by the increased voltage of the battery as it recharges. On a discharged battery the charger would start charging at near its rated output and as the battery recharges the charge rate will be reduced until it reaches a final charge rate of approximately 2 to 3 amps on a fully charged battery. The charging time is controlled by a timer which terminates the charge at the end of a preset time. Recommended minimum charging times are shown on the CHARGING TIME CHART.

Series T - This charger also uses a constant potential method for recharging, however, it is equipped with a voltage sensing device that activates the timer when the battery reaches 80% of full charge. The timer then times out the balance of the charge, normally 4 hours. The time required for the battery to reach the 80% level will vary with the capacity and state of charge of the rated output and it will reduce its charging rate as the battery is recharged.

The final charge rate on a charged battery will be approximately 6 to 10 amperes depending on the rating of the charger. A shorter recharge time is achieved by using this method. Protection from overcharging is provided by the voltage sensing device.

INSTALLATION

Portable models may be set on any suitable working surface so that there is access to the control panel. There should be at least six inches of clearance on each side and two inches on the top to allow free flow of air for cooling. Do not expose the charger to rain or other adverse weather conditions. There must be a separately fused, three-wire, single phase, 115 volt, 15 ampere power receptacle within reach of the A-C input cord of the charger. If the A-C input voltage at your location varies from the nominal 115 volts, it will be necessary to adjust the charger for proper operation. A Low-Med-High switch on the charger is designed to make the necessary adjustment convenient. This switch is located on the front panel of all portable models and on the built-in models with separate control console.

The "Med." setting is designed for those locations where the voltage is between 113 and 120 volts. If your input voltage is between 121 and 128 volts, set the switch in the "Low" position. This will reduce the output voltage to compensate for the high input voltage. If the input voltage at your location is between 105 and 112 volts, set the switch in the "High" position. This will raise the output voltage to compensate for low input voltage. For greater accuracy, the input voltage should be measured during the time of day when the battery chargers are normally in use.

If the output current as shown on the meter exceeds the rated output of the charger, set the switch to the next lowest position to avoid damage. Once set, it should not be necessary to change the switch position as long as the charger is used at the same location.

OPERATING INSTRUCTIONS

1. Verify that the output fuses are fully tightened.
2. Connect the D-C plug to the battery receptacle. Portable chargers are furnished with a polarized D-C plug that mates with a corresponding polarized receptacle in the vehicle to prevent improper connections to the battery. Built-in models are permanently connected to the batteries.
3. Connect the A-C plug to a suitable, grounded receptacle.
A Series - Determine the minimum charging time (see CHARGING TIME CHART). Turn the charger on by setting the timer knob to the desired charging time.
T Series - Turn the charger on by setting the timer knob to "START" position (4 hours). The voltage sensing unit will automatically start the timer when the battery reaches 80% of full charge.
4. Verify that the output meter indicates a charging current. If there is no charging current, see TROUBLE SHOOTING section. Never let the charger charge higher than its rated output. If the charger is charging too high, check the batteries to be sure there are no defective cells or short circuits. See the instructions, concerning tap switch setting under INSTALLATION section.

5. The timer control will turn off the charger (positive turn off feature) at the completion of the charge.
6. Disconnect the battery from the charger. On built-in models, disconnect the A-C cord.
7. Using a hydrometer, verify that the battery is properly charged.

CHARGING TIME CHART (A SERIES)

The following chart provides useful information for determining the minimum charging time needed to restore a battery to a full charge condition. In addition to normal charging, the cells of the batteries should be equalized twice each month. This is done by charging the batteries an additional seven (7) hours after a normal charge cycle. The current indications of the ammeter must be low during cell equalization.

<u>Specific Gravity Reading</u>	<u>Condition of Battery</u>	<u>Hours Needed to Charge</u>
1100	fully discharged	12
1125	10% charged	10
1150	20% charged	8
1175	30% charged	7
1200	60% charged	4
1225	75% charged	2
1250	95% charged	1/2
1260	fully charged	0

TROUBLE SHOOTING & REPAIR INSTRUCTIONS

LOW OR NO CHARGING CURRENT

1. Using a voltmeter, verify that the battery being charged has no open or dead cells. Check jumper cables between batteries for tight and clean connections, and also verify that the battery is not already fully charged.
2. Check the output fuses of the charger to make sure they are not loose or "blown".
3. Verify that the A-C receptacle has power by plugging in an electrical appliance. Using a voltmeter, check A-C input voltage at the receptacle. Taps are provided inside back panel of charger to adjust for input voltages from 105 to 125. Verify that charger is connected for correct voltage.
4. Turn the charger ON and verify that the transformer hums. If no hum is heard, proceed with step 4.1. If a hum exists, go to step 5.
 - 4.1 Remove A-C plug from power source.
 - 4.2 Remove the cabinet cover (1) to gain access to the interior of the charger.
 - 4.3 With the timer switch OFF, check for continuity between the two primary input leads of the transformer. If no continuity is found, replace the transformer. If continuity is found, proceed as follows:
 - 4.4 With the timer switch ON, check for continuity across the switch. On "T" Series chargers there are two switches - check both. If switch is open with the timer ON, replace the timer assembly.
 - 4.5 If all of the above checks indicate continuity, but the transformer does not hum, check for loose or broken leads between the A-C plug, the timer assembly and the tap switch or terminal board.

5. If the transformer hums, proceed as follows:
 - 5.1 Remove A-C plug from power source.
 - 5.2 Check the two output fuses to insure they are good. Inspect the fuse holders for damage or a blackened appearance. (If the fuse holder is blackened, it indicates oxidation and should be replaced)
 - 5.3 Remove both output fuses. Check for continuity from the output side of both fuse holders to the positive side of the D-C plug, connecting continuity indicator first in one direction and then the other of each. The indicator should show an open in one direction and continuity in the other. Continuity in both directions or no continuity in either direction indicates a bad diode. Replace the diode connected to that fuse holder.
 - 5.4 Check for continuity between the input side of one fuse holder and the input side of the other. If no continuity exists, the transformer secondary is open. Replace transformer.
 - 5.5 Check for continuity across the two terminals of the meter. If no continuity exists, the meter is open. Replace meter.
 - 5.6 If all indications to this point are normal, test the entire D-C output circuitry for continuity by progressing from the positive D-C output prong to the negative D-C output prong in incremental test sections, checking each connection for open circuits and poor conditions.

A-C LINE FUSES BLOW

6. With unit unplugged and timer turned ON, check for continuity between each input prong of the A-C plug and the ground prong. If continuity is found between either input prong and ground, a short circuit exists and must be found and removed. If all indications are open and the A-C fuses are of sufficient rating for the charger, a shorted transformer is the most probable cause of this problem. Replace transformer.

OUTPUT FUSES BLOW

7. Verify that the circuit under charge is not shorted by disconnecting the charger and operating it disconnected.
8. If output fuses continue to blow, test the charger as per steps 5.1 through 5.6.

TIMER DOES NOT TURN UNIT OFF

9. Unplug charger. Check continuity of timer motor. If open, replace timer. If not, check timer switch contacts. If timer assembly is not defective, adjust Voltage Sensing Unit as per instructions in next paragraph ("T" Series only).

VOLTAGE SENSING UNIT ADJUSTMENT PROCEDURE ("T" Series)

NOTE: A D-C voltmeter with the appropriate voltage range is required to perform the following adjustment.

10. The unit is assembled on a small panel inside the charger cabinet (see item 23, exploded diagram). Each unit has been carefully adjusted at the factory.

To actuate at the proper voltage; however, if it is desired to change the actuation voltage point, the following procedure should be followed:

- 10.1 Connect the charger to a battery which is known to be fully charged.
- 10.2 Observing polarity, connect the voltmeter across the battery terminals.
- 10.3 Turn the charger ON. The voltage across the battery, as indicated by the voltmeter, will rise slowly. When the proper voltage (dependent upon the number of cells) is reached, the small relay in the voltage sensing unit will actuate. This can be detected since it generates an audible click.
NOTE: The Voltage Sensing Unit should be set for 2.37 volts per cell. On a 24 volt system, the Voltage Sensing Unit should actuate at 28.4 volts. On a 36 volt system, the unit should actuate at 42.7 volts.
- 10.4 Turn the adjustment shaft on the voltage Sensing Unit clockwise to raise the actuating voltage and counter-clockwise to lower the actuating voltage.
- 10.5 Turn the charger ON and OFF, as necessary, to raise and lower battery voltage, while repeating steps 10.3 and 10.4 until the desired actuation point is achieved.

IMPORTANT FACTS ON BATTERIES AND CHARGERS

To determine whether or not a battery is properly charged, a measuring device known as a hydrometer is used. A hydrometer measures the specific gravity of a liquid and a battery hydrometer is graduated to measure the specific gravity of battery electrolyte. The electrolyte in your battery becomes heavier as it is charged, therefore, a higher specific gravity reading indicates a higher charge condition of your battery. The specific gravity reading will range from 1100 for a completely discharged battery to 1260 for a fully charged battery. No amount of overcharging will raise the specific gravity above 1260 on the electric vehicle type of battery. Both overcharging and undercharging can cause a premature failure of a battery. Overcharging destroys the positive plates. Consistent undercharging causes a buckling of the plates.

Do not discard a good battery as being defective because its specific gravity does not show an increase immediately upon applying a charge. Many good batteries require a charging period as long as three hours before they show any increase in the specific gravity. Do not charge a battery if the electrolyte temperature could rise above 120 degrees F. This could damage both battery and charger. As a rule of thumb, the electrolyte temperature during normal charging will rise about 25 degrees above the temperature in the charging area.

Failure to keep the battery electrolyte to the proper level will result in a crumbling (abnormal sulfation) of the plates and cause failure of the battery. Distilled water must be added to the battery regularly to make up for the loss due to evaporation. Prior to charging, the electrolyte level should cover the battery plates. Fill the battery to the proper level only after it has been fully charged.

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.

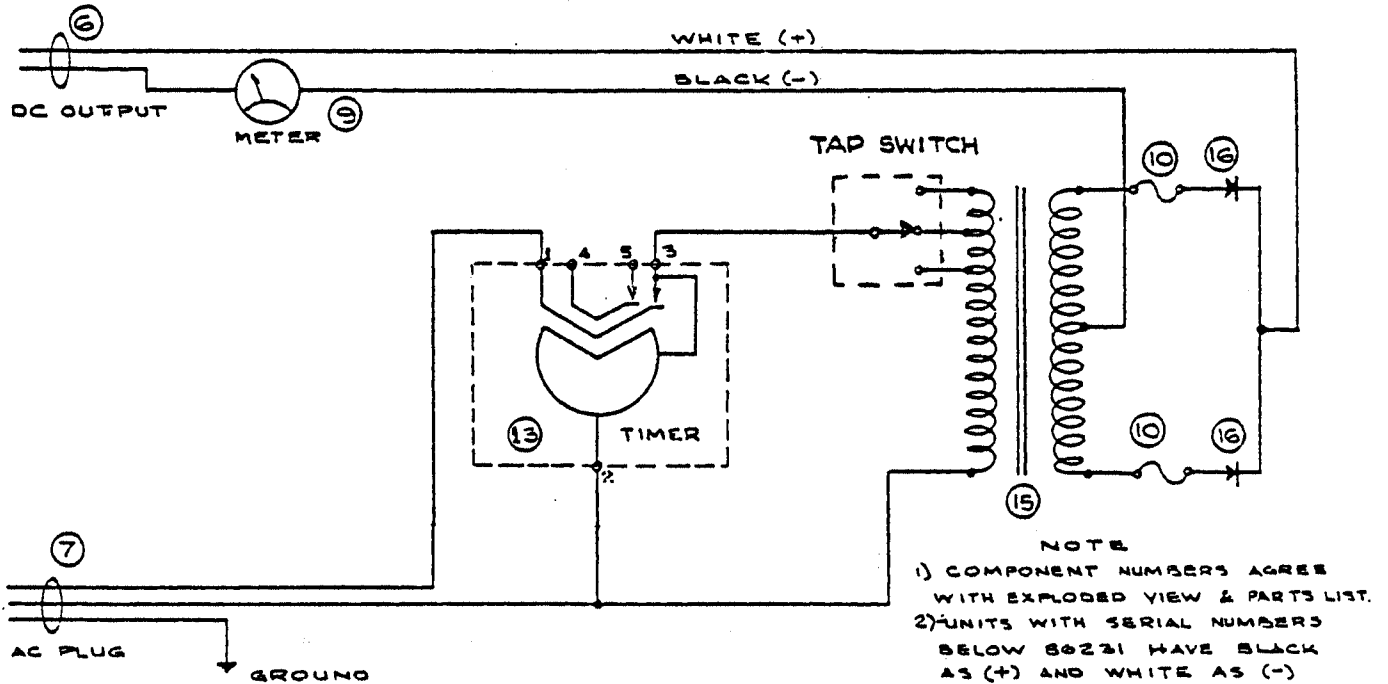
INSPECTION OF BATTERIES AND ASSOCIATED CIRCUITS

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.

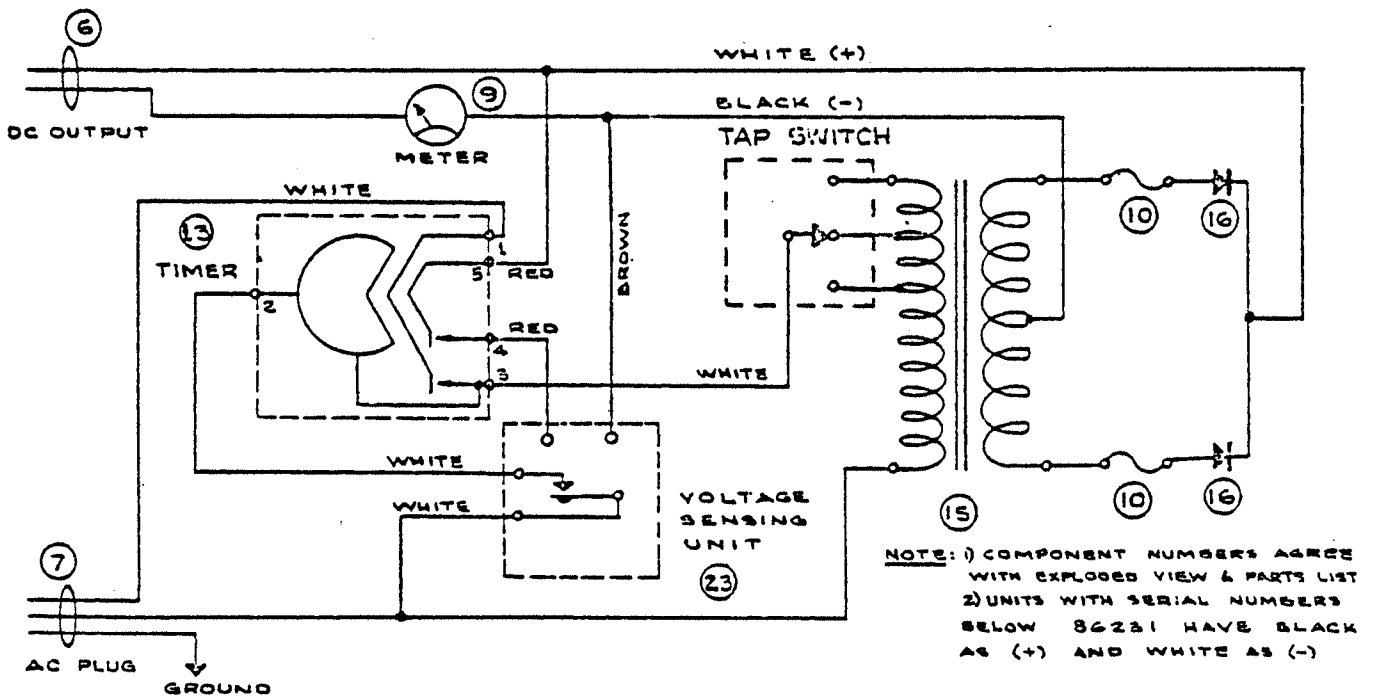
1. Verify that all connections within the unit to be charged are clean and right.
2. Check each battery for loose terminal posts.
3. Test for continuity between all battery terminals and the charging receptacle.
4. Verify that the top of each battery is free of moisture, grease and acid film, which may 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 a 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.

CIRCUIT DIAGRAMS

SERIES "A" & "T" CHARGERS



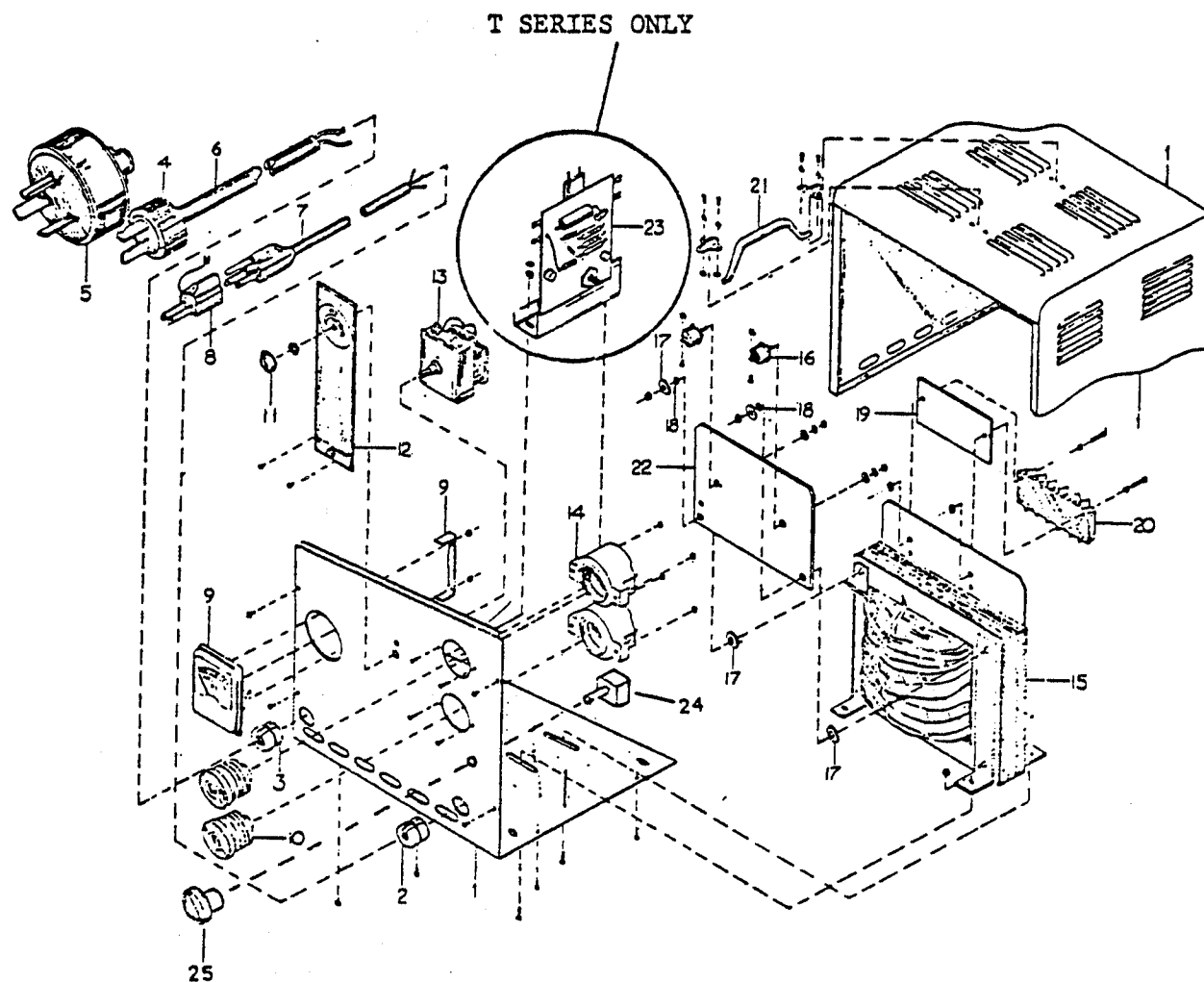
CHRISTIE SERIES "A" BATTERY CHARGERS



CHRISTIE SERIES "T" BATTERY CHARGERS

PART IDENTIFICATION
SERIES "A" & "T" CHARGERS

EXPLODED DIAGRAM



Portable Cabinet Shown.

I.D. Numbers of Internal Components are Identical for Portable and Built In Charger.

PARTS LIST

<u>Item</u>	<u>Taylor-Dunn Part No.</u>	<u>Item</u>	<u>Taylor-Dunn Part No.</u>
1 Cabinet		15 Transformer, 24V/20A ("T" Series)	79-630-00
2 Bushing (A-C)	79-530-00	Transformer, 24V/20A ("A" Series)	79-606-00
3 Bushing (D-C)	79-531-00	Transformer, 24V/30A ("T" Series)	79-607-00
4 D-C Plug (2 prongs)	76-001-00	Transformer, 36V/20A ("T" Series)	79-613-00
5 D-C Plug (3 prongs)	76-002-00	Transformer, 36V/20A ("A" Series)	79-612-00
6 Output Cord (no plug)	79-560-00	Transformer, 36V/30A ("T" Series)	79-614-00
Output Cord w/molded plug	79-566-00	Transformer, 48V/20A ("T" Series)	79-620-00
7 A-C Cord and Plug (portable model)	79-570-00		
Molded A-C Assembly (built-in model)	79-575-00	16 Diode, 24/36V	79-720-00
Recessed Male Plug (built-in model)	76-251-00	Diode, 48V	79-724-00
8 Adapter	79-580-00	17 Washer Assembly, 3/4"	97-170-00
9 Ammeter (0-30 amp)	79-851-00	18 Washer Assembly, 3/8"	97-171-00
10 Fuse (30 amp)	79-819-00	19 Mounting Plate	94-325-00
11 Control Knob	79-803-00	20 Terminal Board	79-860-00
12 Instruction Plate	94-321-00	21 Handle Assembly	79-509-00
13 Timer Assembly, 12 hr. ("T" Series)	79-800-00	22 Heat Sink	79-742-00
Timer Assembly, 24 hr. ("A" Series)	79-801-00	23 Voltage Sensing Unit, 24V ("T" Series)	79-810-00
14 Fuse Holder	79-830-00	Voltage Sensing Unit, 36V ("T" Series)	79-811-00
		Voltage Sensing Unit, 48V ("T" Series)	79-812-00
		24 Tap Switch (Low-Med-High)	79-895-00
		25 Knob, (Low-Med-High)	79-896-00

When ordering parts, please specify both serial number and model of charger.

MAINTENANCE PROCEDURES

BODY AND TRIM

Your vehicle has been finished with several coats of durable baked on enamel.

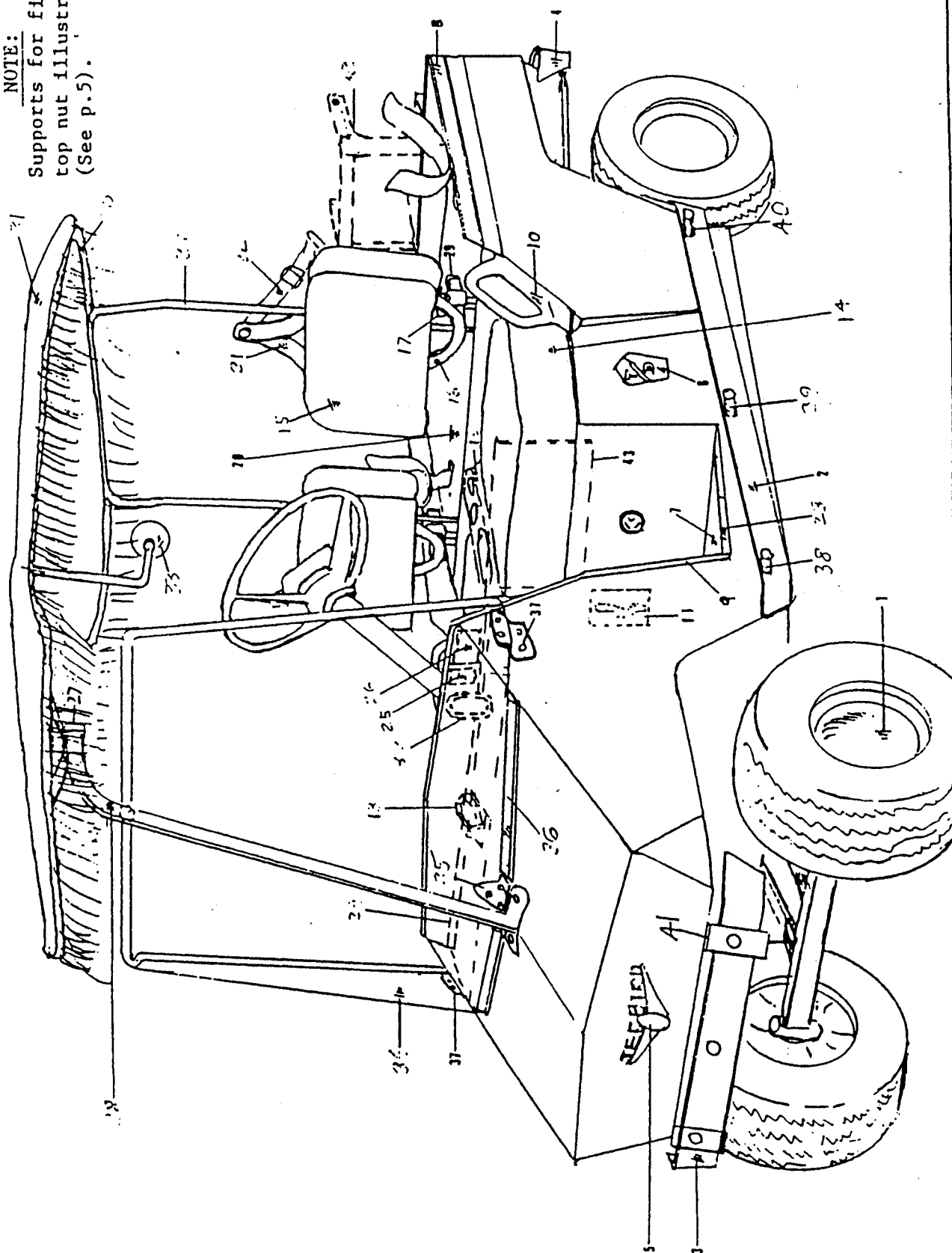
It will require the same care as you would give your automobile. The chrome trim is also resistant to corrosion and will require an occasional cleaning.

It is recommended that your vehicle be washed with a mild soap and warm water. For long life a good automotive type of wax will extend the life of the finish and maintain lasting beauty.

For identification of Body and Trim parts available for repair and replacement, refer to the following pages in this section.

Supports for fiberglass
top nut illustrated.
(See p.5).

SECTION 19 PAGE 2



BODY & TRIM PARTS - MODEL TEE BIRD

TAYLOR DUNN MFG. CO.
2114 West. Ball Rd.
Anahelm, Calif.

FIGURE 11
SECTION J9

DRAWN BY

BODY & TRIM PARTS
REFER TO FIGURE 11

FIG.I.D. NO.	T-D PART NO.	DESCRIPTION	QTY.
11-1	92-001-00	Cover, Wheel, Chrome	4
11-2A	91-920-10	Bumper, Side, Left or Right, Zinc Plated	2
11-2B	91-920-20	Bumper, Side, Left or Right, Chrome Plated	2
11-3A	91-915-10	Bumper, Front, Zinc Plated	1
11-3B	91-915-11	Bumper, Front, Chrome Plated	1
11-4A	91-920-52	Bumper, Rear, Cross Bag Rack Only, Zinc Plated	1
11-4B	91-916-52	Bumper, Rear, Cross Bag Rack Only, Chrome Plated	1
11-4C	91-921-52	Bumper, Rear Center, Stand-Up, Zinc Plated	1
11-4D	91-918-52	Bumper, Rear Center, Stand-Up, Chrome Plated	1
11-4E	91-921-53	Bumper, Rear Upper, Left or Right, Stand-Up, Zinc Plated	2
11-4F	91-918-53	Bumper, Rear Upper, Left or Right, Stand-Up, Chrome Plated	2
11-5	94-203-00	Tee Bird Emblem	1
11-6	94-201-00	Taylor-Dunn Emblem	1
11-7	98-017-40	Mat, Rubber Floor	1
11-8A	94-025-00	Trim, Aluminum, Rear Deck, Cross Bag Rack	1
11-8B	94-036-00	Trim, Aluminum, Rear Deck, Stand-up Bag Rack	1
11-9	94-035-51	Trim, Black Plastic, 78" Long w/Trim Allowance	1
11-10A	90-312-10	Arm Rest, Dipped Black, Left Side	1
11-10B	90-313-10	Arm Rest, Dipped Black, Right Side	1
11-11	94-307-00	Plate, Forward/Reverse Switch	1
11-12	91-402-00	Tray, Accessory, Black Plastic, Tapered	1
11-13	91-508-00	Bracket, Ash Tray	1
11-13	91-405-00	Ash-Tray, Glass	1
11-14	90-139-99	Set, Seat Cushion, Consisting of 2 Each Bucket Seat Cushions (90-154-99) & 2 Each Backrest Cushions (90-138-99) Specify Color.	1
11-14	90-154-99	Cushion, Seat, Bucket Type, Specify color Combination	2
11-14A	90-171-00	Cushion, Seat, Bench Type, Solid White	1
11-15	90-138-99	Backrest, Seat, Bucket Type, Specify Color Combintation	2
11-15A	90-170-00	Cushion, Backrest, Bench Type, Solid White	1
11-16A	90-103-98	Support, Adjustable Back Rest Cushion, Left Side	1
11-16B	90-103-97	Support, Non-Adjustable Back Rest Cushion, Right Side	1
11-17	95-901-00	Knob, Plastic, for locking Back Rest	2
11-20	90-456-10	Deck-Board, Two Piece w/Cradle Bag Rack, Belts & Clips	1
11-20	90-456-00	Deck-Board, without 2 Piece Cradle Rack, 23-7/8 x 42-7/8	1
11-20	90-455-10	Deck-Board, for Stand-Up Bag Rack, with clips and Bumpers	1
11-21	91-521-00	Rack, Single Bag, Two Piece, Not Including Belts or Buckle.	2
11-22A	91-542-00	Belt with Tip & Eyelet, Cradle Rack Only	2

BODY & TRIM PARTS
REFER TO FIGURE 11

FIG. I.D. NO.	T-D PART NO.	DESCRIPTION	QTY. REQ.
11-22B	91-542-00	Belt with Tip & Eyelet, Craddle Rack Only	2
11-22C	91-536-00	Buckle, Cradle Rack Only	1
11-22D	96-602-00	Clamp for Attachment of Buckle to Rack	2
11-22E	88-067-13	Screw, Oval Head for Attaching Rack to Board 1/4 NC	2
11-23	94-039-00	Strip, Aluminum, Trim for Rubber Floor Mat, 14" Long with 3 Holes	2
11-24	94-026-00	Strip, Aluminum Trim for Cowl Shelf	1
11-25	94-308-00	Decal, Directional Control	1
11-26	94-302-50	Decal, Warning	1
11-27	95-911-00	Cap, Plastic, 1" Square	2
11-28A	91-034-10	Support, Front Top, Zinc Plated	1
11-28B	91-034-20	Support, Front Top, Chrome Plated	1
11-29A	91-036-10	Support, Rear Top, Zinc Plated	1
11-29B	91-036-20	Support, Rear Top, Chrome Plated	1
11-28/29	96-119-00	"L" Bolt, for Rear Top Support	4
11-30	91-031-10	Frame, Top, Tubular, Zinc Plated	1
11-31A	91-120-00	Top, Surrey with Fringe	1
11-31B	91-150-00	Top, Fiberglass	1
11-31B	91-150-61	Kit, Hardware w/Instructions for Installing 91-150-00 Fiberglass Top	1
11-31B	98-451-00	Weatherstrip for Fiberglass Top	4 Ft.
11-32	91-524-10	Bag-Holder, Stand-Up, Black	1
11-32	98-019-00	Mat, for Stand-up Bag Rack	1
11-32	94-037-00	Strip, Aluminum Trim, for Stand-up Bag Rack Mat, Bag Area	1
11-33	92-203-00	Mirror, Rear View	1
11-34A	90-825-00	Windshield, Rigid Plastic	1
11-34B	90-824-00	Windshield, Flexible Plastic with Fasteners	1
11-34B	85-221-00	Spring, Extension for Flexible Windshield 11/16 OD x 3	2
11-35	90-825-61	Kit, Mounting Bracket & Hardware for Rigid Windshield Including Instructions	1
11-36	98-314-00	Channel, Rubber Lip Seal for Rigid Windshields	2
11-37	98-613-00	Grommet, Rubber, Steering Column	1
11-38	16-207-00	Spacer, 1/2 Long, Side Bumper, Front	2
11-39	16-206-00	Spacer, 1-1/16 Long, Side Bumper, Center and Stand-Up Rear Upper Bumper	6

BODY & TRIM PARTS - FASTENERS

USED WITH I.D. NO.	T-D PART NO.	DESCRIPTION	QTY. REQ.
11-2,4,6	88-102-17	3/8 N.C. x 2-1/4 Carriage Bolt	3,3,3
11-3,4	88-102-11	3/8 N.C. x 1 Carriage Bolt	3,3
11-2,3,4	88-109-87	3/8 N.C. Fastite Nut	3,6,3
11-13	88-557-91	1/8 Push-On Nut	6
11-51	88-807-01	#4 x 3/16 Drive Screw	2
11-50,60	88-737-08	3/16 Dia. x 5/8 Aluminum Pop Rivet	7,7
11	88-088-62	5/16 Lock Washer	
11-16,23	88-727-06	5/32 Dia. x 1/2 Aluminum Pop Rivet	4,26
11-7	88-837-11	#14 X 1 Pan Head Sheet Metal Screw	23
11-36	88-100-13	3/8 N.C. X 1-1/4 Hex Head Screw	2
11-36	88-108-62	3/8 Lock Washer	2
11-37A,37B	88-080-14	5/16 N.C. x 1-1/2 Hex Head Bolt	6,4
11-37A,37B	88-089-81	5/16 N.C. Lock Nut	6,4
11-42	88-069-87	1/4 N.C. Fastite Nut	1
11-42	88-069-83	1/4 N.C. Acorn Nut	1
11-42	88-065-06	1/4 N.C. x 1/2 Truss Head Screw	1
11-42	88-068-61	1/4 S.A.E. Washer	1
11-42	88-068-62	1/4 Lock Washer	1
11-20,26	88-065-09	1/4 x 3/4 N.C. Truss Head Machine Screw	8,4
11-26	88-065-11	1/4 x 1 N.C. Truss Head Machine Screw	6
11-26	88-065-13	1/4 x 1-1/4 N.C. Truss Head Machine Screw	2
11-26	88-068-60	1/4 S.A.E. Washer	16
11-17	88-065-08	1/4 x 5/8 N.C. Truss Head Machine Screw	16

BODY & TRIM PARTS - NOT ILLUSTRATED

50-226-00	Battery Rod - 15-1/4"	2
50-235-00	Battery Rod - 21-3/4"	4
94-304-00	Switch, Nameplate	1
98-613-00	Grommet, Rubber (2" I.D.) Steering Column	1
94-026-00	Aluminum Trim Strip Cowl Shelf	1
91-406-00	Drink Holder (Black)	1
92-201-00	Mirror 4 x 8	1
92-202-00	Mirror Bracket Assy.	1
74-005-00	Charger Indicator, 12 Volt	1
91-035-10	Top-Support, Front, Zinc Plated, (Fiberglass only)	1
91-035-11	Top-Support, Front, Chrome Plated, (Fiberglass only)	1
91-035-12	Top-Support, Strap, Zinc Plated (Fiberglass only)	1
91-035-13	Top-Support, Strap, Chrome Plated, (Fiberglass only)	1
91-035-14	Top-Support, Rear, Zinc Plated, (Fiberglass only)	2
91-035-15	Top-Support, Rear, Chrome Plated, (Fiberglass only)	2

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