

Taurus

650

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MANUAL

How to Use This Manual

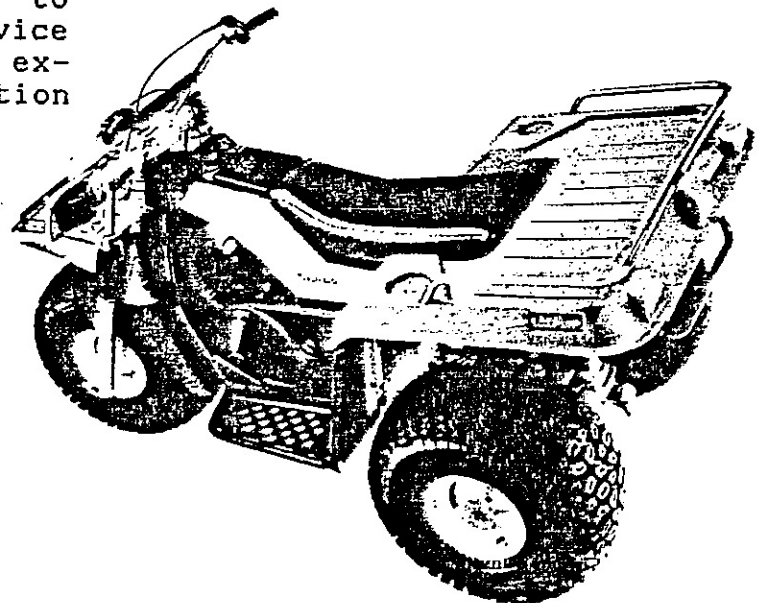
The Taurus 650 Service Manual has been divided into general sections for easier use. Locate the section you need in the Table of Contents and turn to the first page of that section.

This edition of the service manual, as a first draft, contains no illustrations or pictures to supplement the servicing instructions. Please refer to the **Taurus Parts Manual** for clarification on part names, part locations and operational procedures.

Please obey all **WARNING** and **CAUTION** messages printed throughout the manual. They are intended to provide optimum protection to both the Taurus 650 and service personnel. These messages are explained in the General Information Section.


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GENERAL INFORMATION

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Safety and Service

The Taurus 650 Service Manual has been written to assist qualified mechanics of authorised Taurus dealers in servicing the Taurus 650. Proper and regular maintenance will extend the life of the product -- and this manual describes the steps necessary for general maintenance operations and most servicing.

Throughout the manual you will notice three types of informative messages:

WARNING: If instructions or procedures are not followed precisely severe personal injury or death could occur.

CAUTION: If instructions or procedures are not followed precisely personal injury or damage to the vehicle could occur.

NOTE: Notes provide extra information about a particular servicing procedure.

Detailed instructions on routine servicing procedures are not provided in this manual. Procedures outlined in this manual refer only to the Taurus 650. Please read all **WARNING** and **CAUTION** messages carefully.

NOTE

For illustrations, parts numbers or parts descriptions please refer to either the Taurus Parts Manual or the Taurus Operator's Manual.

General Warnings**WARNING**

Never start or run the engine in an enclosed or poorly ventilated area. Engine exhaust contains carbon monoxide, a colourless, odourless gas. Exposure to air contaminated with carbon monoxide can cause serious personal injury or death.

Battery fluid contains sulphuric acid. If battery fluid comes in contact with your skin or eyes, serious personal injury will occur. Always wear rubber gloves and safety glasses when servicing the battery.

Batteries can explode if exposed to flame or sparks and cause serious personal injury. Never smoke while servicing the battery.

Gasoline is extremely flammable and can explode if ignited. Do not smoke or allow flames or sparks in your work area. Clean up spilt fuel immediately.

Maintenance Schedule

The maintenance intervals shown on the chart below apply to a Taurus 650 operated under normal conditions. Vehicles subjected to harsh conditions, severe use or abnormally high or low temperatures will require more frequent servicing.

Item	After 5 Hrs.	Every 25 Hrs.	Every 50 Hrs.	Every 100 Hrs.	Every 250 Hrs.
Engine Oil	Replace	Replace	-	-	-
Transmission Oil	Replace	Inspect	-	Replace	-
Transmission Vent	Inspect	Inspect	-	-	-

(....cont'd)

Maintenance Schedule (cont'd)

Item	After 5 Hrs.	Every 25 Hrs.	Every 50 Hrs.	Every 100 Hrs.	Every 250 Hrs.
Air Pre Cleaner	-	Clean	-	-	-
Air Filter	-	Inspect	-	-	Replace
Front Brake	Inspect	Inspect	-	-	-
Rear Brake	Inspect	Inspect	-	-	-
Rear Brake Fluid	Inspect	Inspect	-	-	Replace
Rear Brake Pads	-	-	Inspect	-	-
Tires	Inspect	Inspect	-	-	-
Steering	Inspect	-	Inspect	-	-
Lights	Inspect	Inspect	-	-	-
Spark Plug	-	-	-	Clean	-
Drive Belt	Inspect	Inspect	-	-	-
Clutches	-	-	Inspect	-	Service
Exhaust Shields	Inspect	Inspect	-	-	-
Fuel System	Inspect	Inspect	-	-	-
Throttle Control	Inspect	Inspect	-	-	-
Battery	-	-	Inspect	-	-

Special Tools Required

Special tools are needed to carry out some servicing procedures. Please check the chart below.

Tool	Part No.	Service Procedure
Hook Spanner	Proto-Mac #C471 TAURUS #485-01	Steering Column Adjustment
Yoke Chisel	TAURUS #458-02	Steering/Suspension Adjustment
Puller Tool	X-1701	Driver Clutch Removal
Transmission Separator	TAURUS #458-03	Transmission Disassembly

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OIL AND LUBRICATION

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For illustrations, parts numbers or parts descriptions please refer to either the Taurus Parts Manual 370-04 or the Taurus Operator's Manual 370-01.

ENGINE OIL

CAUTION

Do NOT start the Taurus 650 until checks on engine and transmission levels have been completed. Serious and irreversible damage could occur to the vehicle.

The Importance of Proper Engine Care

The Briggs & Stratton engine in the Taurus 650 requires proper lubrication with clean oil to maintain consistent performance and long engine life. Oil of the specified type and quantity will reduce engine wear and future servicing problems.

Oil Level Inspection

* see Maintenance Schedule

CAUTION

Do not run the engine if the oil level is above the FULL mark or below the ADD mark. Serious engine damage can occur.

Oil Recommendations

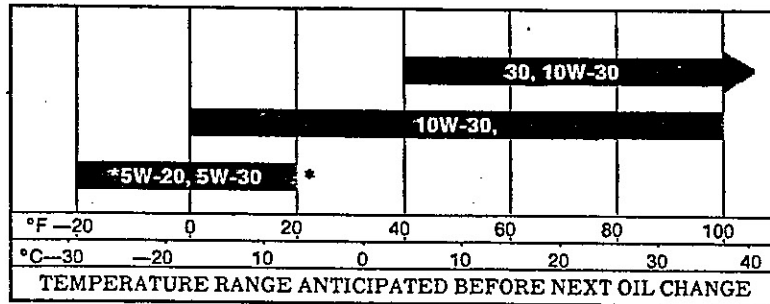
Type: SAE Class MS,SC,SD,SE

Use only a high quality detergent oil having an SAE service classification as shown above. Detergent oil will help clean the engine better.

Change the oil viscosity to suit seasonal conditions and temperatures. Refer to the viscosity chart below.

Oil Viscosity Chart

RECOMMENDED SAE VISCOSITY GRADES



Changing Engine Oil

* see Maintenance Schedule

Crankcase capacity: 3.5 Pints (1.65 Litres)

To remove the engine oil:

1. Warm up the engine thoroughly and turn it off.
2. Place the vehicle on a level surface.
3. Place an oil catch pan beneath the engine and remove the drain plug.
4. Replace the drain plug when all the oil has drained. Tighten the plug properly.

To refill the engine:

1. Refill the engine through the dipstick hole.
2. Allow the oil time to settle before checking the level.
3. Add or drain oil if necessary to get the proper level. Do NOT fill past the FULL mark. (see CAUTION above.)
4. Check that the drain plug is tight.

TRANSMISSION OIL**CAUTION**

Proper transmission lubrication will reduce wear, extend gearbox life, and will help the operator shift gears with little difficulty. Please use the type and quantity of transmission oil specified below.

Oil Level Inspection

* see Maintenance Schedule

Inspect the oil level as follows:

1. Place the vehicle on a level surface.
2. Loosen the upper transmission filler plug located just above the left rear axle shaft.
3. Partly remove this plug.

The level is correct if transmission oil leaks out of the filler plug hole.

Oil Recommendations

Type: 80 W 90 Gear Lube, HYPOY-C

In a climate where normal temperatures exceed 35 C (95 F) oil of a higher viscosity may be necessary.

Changing Transmission Oil

* see Maintenance Schedule

To remove the oil:

1. Drive the vehicle until the transmission is warmed up thoroughly.
2. Place an oil catch pan beneath the transmission at the axle and remove the drain plug. The drain plug is located just under the rear axle shaft on the left side of the vehicle.
3. Clean off the plug and replace it when all the oil has drained out. Tighten the plug properly.

To refill:

Capacity: 5.3 Pints (2.5 Litres)

1. Tip the Taurus over until the left rear wheel is at least five inches off the ground. Secure it in this position.

2. Remove the upper filler transmission plug and clean it off.
3. Insert into the filler plug hole a hose of suitable diameter which is attached to a large funnel. The hose should be around 15 inches long.
4. Pour the proper quantity of oil into the funnel.
5. Replace the plug and tighten securely.

Clutch Lubrication

* see Maintenance Schedule

Recommended lubricant: WD-40 or SD-3

CAUTION

Do not spray lubricant on the belt or clutch faces. Lubrication of these components will hinder torque converter performance and cause operational hazard.

Allow the lubricant to dry before using the vehicle. Dirt will collect on a wet unit causing serious damage to the clutch components.

1. Remove plastic clutch cover on the left side of the Taurus.
2. Locate the driven clutch unit.
3. Direct the lubricant spray at the spring shaft on the outer side of the driven clutch.
4. Locate the driver clutch unit.
5. Direct the lubricant spray at the sliding weights.
6. Replace the plastic clutch cover.

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BRAKE SYSTEM

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BRAKES

The TAURUS 650 has a front mechanical drum brake and an hydraulic rear disc brake. The front brake also functions as the parking brake.

Front Brake/Parking Brake

* see Maintenance Schedule

The front brake must be inspected on a regular basis to detect worn or damaged parts. Inspection may result in the adjustment or replacement of brake system components.

WARNING

An improperly adjusted front brake will not be effective in stopping the vehicle or preventing the vehicle from rolling down hill when the parking brake has been activated. Serious injury or death may result if the front brake is not properly adjusted.

Front Brake Inspection

Inspect the front brake system thoroughly for:

- damaged, loose or worn parts
- loosely mounted or improperly adjusted brake cable
- the condition of the brake shoes.

They must be replaced if they are:


- + worn to .060" (1.5mm)
- + glazed and performance is effected
- + contaminated with grease oil, etc.
- + severely scored from dirt

Brake Cable Removal

1. Loosen the clamps securing the brake cable to the fork yokes.
2. Loosen the brake cable adjusting nuts at the brake drum arm located near the front axle.
3. Loosen brake arm locking screw and remove brake arm.
4. Disconnect cable from brake arm and backing plate.

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Tires	Inspect	Inspect	-	-	-
Steering	Inspect	-	Inspect	-	-
Lights	Inspect	Inspect	-	-	-
Spark Plug	-	-	-	Clean	-
Drive Belt	Inspect	Inspect	-	-	-
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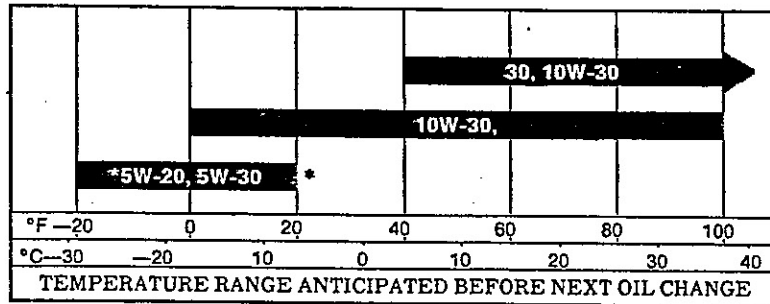
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5. Replace the plug and tighten securely.

Clutch Lubrication

* see Maintenance Schedule

Recommended lubricant: WD-40 or SD-3

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BRAKE SYSTEM

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BRAKES

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Front Brake/Parking Brake

* see Maintenance Schedule

The front brake must be inspected on a regular basis to detect worn or damaged parts. Inspection may result in the adjustment or replacement of brake system components.

WARNING

An improperly adjusted front brake will not be effective in stopping the vehicle or preventing the vehicle from rolling down hill when the parking brake has been activated. Serious injury or death may result if the front brake is not properly adjusted.

Front Brake Inspection

Inspect the front brake system thoroughly for:

- damaged, loose or worn parts
- loosely mounted or improperly adjusted brake cable
- the condition of the brake shoes.

They must be replaced if they are:

- + worn to .060" (1.5mm)
- + glazed and performance is effected
- + contaminated with grease oil, etc.
- + severely scored from dirt

Brake Cable Removal

1. Loosen the clamps securing the brake cable to the fork yokes.
2. Loosen the brake cable adjusting nuts at the brake drum arm located near the front axle.
3. Loosen brake arm locking screw and remove brake arm.
4. Disconnect cable from brake arm and backing plate.

5. Loosen rubber boot, plastic adjuster, adjusting nipple and collar, rubber bellows and barrel fitting at the hand brake end of the brake cable.
6. Remove inner cable from brake lever body.

Brake Cable Installation

1. Slide cable through fork boot clip and cable clips on the right hand fork.
2. Assemble round rubber bellows, adjusting nipple and collar, plastic adjuster, small steel retainer and rubber boot onto hand brake end of cable.
3. Insert retainer attached to the brake cable up into the hole in hand brake lever.
4. Turn plastic adjuster until no thread on the nipple is showing. Then back off 1 1/2 turn.
5. Slip inner cable through slot in brake drum plate and insert sleeve into bore.
6. Turn brake arm shaft clockwise with needle nose pliers. With cable tight, press brake arm onto shaft.
7. Tap arm tight onto shaft and tighten locking screw.
8. Position and tighten the upper and lower hex nuts.
9. Adjust parking brake cable tension (see **Front Brake/ Parking Brake Adjustment** below.)

Front Brake/ Parking Brake Adjustment

1. Warm up the front brakes up by driving the vehicle and frequently applying them.
2. Turn off the engine and place in gear.
3. Raise the front wheel off the ground.
4. Back off the front brake adjusting knob on the left handlebar.
5. Tighten the upper hex nut on the front wheel brake lever until brake drag occurs on the spinning front wheel.

NOTE

The brake drag should be consistent as the front wheel spins around.

6. Back off the upper hex nut one full turn.
To test the effectiveness of the newly adjusted front brakes, perform the following driving test:
 - a. Apply the parking brake.
 - b. Drive the vehicle forward slowly and cautiously on a dry packed dirt surface.

NOTE

The front brake/parking brake is properly adjusted if the front wheel does not turn during this driving test. If the wheel does turn, repeat steps 2, 4, 5 and 6 above.

7. The adjuster knob can also be used for fine adjustment of the front brake.

Front Brake Shoe Removal

1. Remove the front wheel (see Front Wheel Removal, pg. WT-1).
2. Remove brake backing plate from the drum.
3. Pry the brake shoes over the pin and remove.

Front Brake Shoe Installation

1. Attach springs to brake shoes.
2. Spread brake shoes apart and fit over pins.
3. Put backing plate onto brake drum.
4. Re-install the front wheel. (see Front Wheel Installation, pg. WT-3).

Rear Hydraulic Disc Brake**Servicing Instructions**

* see Maintenance Schedule

The rear brake must be inspected on a regular basis to detect worn or damaged parts, or possible leakage in the hydraulic fluid system. Inspection may result in the adjustment or replacement of brake system components.

WARNING

An improperly adjusted rear brake will not be effective in stopping the vehicle. Serious injury or death may result if the rear brake is not properly adjusted.

Rear Brake Inspection

Inspect the rear brake system thoroughly for:

- proper fluid level
- brake pad wear
- brake pedal travel
- leakage of hydraulic fluid. Brake fluid and pressure loss can usually be attributed to seal or piston damage, but all hose connections also should be checked. Seal damage occurs due to:
 - * use of incompatible brake fluid
 - * decomposition of the brake fluid due to high heat caused by overloading or brake drag
 - * contamination by dirt or water

Check for and correct these before replacing any components.

CAUTION

All hydraulic lines and fittings are metric. Use only original TAURUS parts.

Always use new copper washers whenever servicing the hydraulic system. Old ones should be discarded.

Fluid Level Inspection

1. Place the Taurus on a level surface.
2. Remove the right engine cover/fender.
3. Carefully clean the area around the top of the reservoir.
4. Remove the cover screws and lift the cover away.
5. Check the fluid level in the viewing window of the reservoir. It should be half way up the window. If it is below this, check the hydraulic system for leaks or replace fluid if necessary.

WARNING

Brake fluid can cause serious irritation to skin and eyes. In case of contact, flush thoroughly with water and seek medical attention if eyes were exposed.

CAUTION

Do not overfill the brake fluid reservoir. Fluid level must be visible half way up the viewing window.

Use only ARGO Brake Fluid Dot 5. Other brake fluids may not be compatible with the TAURUS brake components. Use of any other brand of fluid will void the warranty.

Handle brake fluid with care, as it can damage painted surfaces.

Never allow contaminants, water, dirt etc. to enter the reservoir.

Rear Brake Pad Inspection

* see Maintenance Schedule

Badly worn or unserviceable pads affect the efficiency of the braking system. To inspect the pads:

1. Loosen the mud slinger set screw on the right axle.
2. Slide the slinger away from the brake cover.
3. Remove the screws and nuts on the brake cover.
4. Pull back the brake cover.
5. Check the wear on the two pads.

Replace the pads when:

- * The pads are worn to the bottom of the groove.
- * The pads are glazed and brake performance is effected.
- * The pads are contaminated with grease, oil etc.

Brake Pedal Travel Inspection

Pedal travel distance: 1 1/2 inches

1. Position a ruler next to the brake pedal.
2. Press down on the pedal until resistance is felt.
3. Check the travel of the pedal. Adjustment is necessary if it doesn't measure as indicated.

Rear Brake Adjustment**Fluid Level Adjustment**

1. Follow procedure under **Fluid Level Inspection** on page BR-6.

2. Add brake fluid to the reservoir.

CAUTION

Use only fresh brake fluid. Old unused fluid can deteriorate or become moisture contaminated over time.

NOTE

When reinstalling the covers, make sure the rubber gasket is clean and properly seated before tightening down the cover screws.

Brake Pedal Travel Adjustment

WARNING

Braking ability will be affected if the pedal travel is not properly adjusted as indicated. Serious injury may result if the braking ability is affected.

1. Remove the right side engine cover.
2. Loosen the locking nut on the adjuster screw.
3. Place a ruler beside the brake pedal.
4. Adjust the screw until the pedal travel is 1-1/2".
5. Tighten the locknut and replace the engine cover.

Rear Brake Pad Removal and Installation

1. Remove both cotter pins.
2. Push the pads away from the brake disc.
3. Pull the pads out of the caliper.
4. Slide new pads into the caliper.
5. Insert the cotter pins and bend the ends over.

6. Reinstall the brake cover and slinger.
7. Pump the brake pedal a few times to build up proper pressure.

After replacing the pads:

- * Check the the brake pedal travel and adjust if necessary. It should be 1 1/2 ".
- * Check the fluid level and adjust if necessary.

Rear Brake Caliper Removal

1. Loosen set screw and remove brake cover slinger.
2. Remove all fasteners holding plastic brake covers together.
3. Disconnect the brake line from the caliper.
4. Turn brake disc to align hole with caliper mounting bolts.
5. Remove caliper mounting bolts with 5/16" hex socket wrench.

Brake Caliper Servicing

NOTE

Brake caliper must first be removed from the vehicle.

1. Remove brake pads.
2. Carefully place caliper in vice and remove 2 socket head bolts.

CAUTION

Do not damage caliper in vice.

3. Separate the 2 halves.
4. Pull each piston out using a piston removal tool. You can also blow it out using compressed air in the inlet holes. Hold a cloth over piston so it doesn't fly out.
5. Remove spring (if used), bleed screw and check ball.
6. Remove 2 large and 1 small seal.

CAUTION

Do not scratch piston or piston bore.

7. Clean all components in alcohol. Use compressed air to blow out hard to reach places.
8. Wipe with a lint free cloth and allow to dry.

WARNING

Do not allow brake fluid to contact your eyes, clothes or painted surfaces. Brake fluid is extremely corrosive and can cause severe personal injury. Wear protective eye goggles, gloves and clothing.

9. Inspect the piston bore for pitting, scoring, scratches or rust and replace if necessary.

CAUTION

When reassembling the caliper, work with clean hands, tools, parts and on a clean surface. Lubricate all components with brake fluid before reassembling.

10. Insert the 3 new seals. Do not scratch or tear them.

NOTE

Do not install the caliper springs. They are not necessary.

11. Insert pistons, cavity side facing out.

12. Bring the 2 halves together and reinstall the bolts. Tighten to the torque value specified below.

Caliper Bolt Torque: 60 ft.lbs. (81 nm)

13. Install the ball, bleed screw, brake pads and cotter pins.

Rear Brake Caliper Installation

1. Spread back the pads on the caliper.
2. Apply LOCTITE Threadlocker 242 compound to hex socket bolt threads.
3. Position caliper and insert hex socket bolts through the brake disc hole, and caliper bracket.

CAUTION

New special washers and spacers must be used when reinstalling rear calipers. Be sure bolts and washers seat securely against transmission.

4. Tighten hex socket bolts as specified below.

Caliper Mounting Bolt Torque: 240 in.-lbs. (27 N-m)

5. Reinstall outer brake cover and slinger.

Master Cylinder Removal

1. Remove the 2 nuts and bolts securing the master cylinder to the frame.
2. Disconnect the hydraulic hose and drain the fluid into a catch tray.

Master Cylinder Servicing**NOTE**

The master cylinder must be removed from the vehicle first.

1. Remove both covers.
2. Drain out all remaining fluid.
3. Pull out piston and spring.

CAUTION

Do not use a gripping tool to pull out the piston as this will scratch it. Pull with fingers only, or reinstall the covers and force compressed air through the fluid inlet hole. This will pop out the piston.

4. Note location and orientation of seals. Remove seals with a plastic or wooden tool (so as not to scratch the piston) and discard.
5. Clean all components with brake fluid or alcohol.
6. Blow out all passages with compressed air, wipe with lint free cloth and let dry.
7. Inspect piston and piston chamber for any scoring, pitting or rust and replace if necessary.
8. Lubricate all parts with clean brake fluid before assembling.

Master Cylinder Installation

1. Install new seals.

NOTE

The primary cup seal is closest to and faces the spring.

2. Install spring and piston.

3. Install boot and master cylinder pin.
4. Place covers temporarily on master cylinder.
5. Reconnect hydraulic hose.

NOTE

Use new copper sealing washers whenever servicing hydraulic components.

6. Fill Reservoir with proper brake fluid and bleed system (see Bleeding The Hydraulic Brake System below.)
7. Install covers.

Bleeding The Hydraulic System - Manually

NOTE

Make sure all connections are tight and area around master cylinder and caliper are clean.

1. Fill reservoir with proper fluid. Keep adding fluid during bleeding process.
2. Attach a short hose to nipple of screw to allow fluid to drain into a tray of brake fluid.
3. Loosen caliper bleeding screw 1/4 turn.
4. Apply brake lever pressure slowly and hold at the end of the stroke.
5. Retighten bleed screw while holding brake lever pressure.
6. Slowly release brake lever and repeat procedures 3 to 5 until all air has been purged from the rear brake system.
7. Add brake fluid to proper level.

NOTE

Clean up any spilled fluid. Use brake parts cleaning solvent to clean up contaminated brake disc.

TR

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TRANSMISSION

Transmission Removal.....TR-1 Transmission Installation...TR-4
Transmission Disassembly...TR-2 Transmission Vent & Hose....TR-6
Transmission Reassembly....TR-3

For illustrations, parts numbers or parts descriptions please refer to either the Taurus Parts Manual 370-04 or the Taurus Operator's Manual 370-01.

TRANSMISSION

Transmission Removal

1. Remove the engine cover fender, clutch cover, seat tool box and battery.
2. Remove the driven clutch assembly. (see Clutch System, pg. CS-6,7)
3. Raise the vehicle so that the rear wheels are off the ground and free hanging.
4. Drain the transmission oil (see Changing The Transmission Oil, pg. OL-4).
5. Disconnect the transmission vent hose from the frame.
6. Remove the shift lever assembly by removing the cotter pin and clevis pin.

7. Disconnect the rear brake hydraulic hose from the T-fitting; drain and plug the openings.
8. Remove the rear wheels (see **Rear Wheel Removal**, pg. WT-3).
9. Place a temporary support under the transmission and then remove the hex bolt securing the rear shock to the transmission.
10. Remove the 5 screws securing the pivot bearing ring to the transmission.
11. Tap and pry the pivot bearing ring out of the frame.

CAUTION

Remove the pivot bearing ring straight out from the frame ring, otherwise binding will occur. Binding of the ring will damage the bearing material and seal.

13. Remove the large pivot bearing bolt.
14. The transmission is now free from the frame. Swing the rear of the transmission to the left so that the input shaft comes out of the frame ring.

CAUTION

Do not allow the transmission to drop during removal. Damage to the transmission or vital vehicle components may result.

15. For removal of the rear brake components from the transmission, refer to **Rear Brake Caliper Removal**, pg BR-9.

Transmission Disassembly

NOTE

Before disassembling the transmission, the slingers and rear brake system must be removed (see **Rear Brake Caliper Removal**, pg. BR-9).

1. Drain the transmission of oil (see **Changing The Transmission Oil**, pg. OL-4).
2. Place transmission speed range selector in "H" (High Gear).
3. Remove the transmission skid plate.
4. Remove the 15 transmission cover bolts.
5. Remove the trailer hitch bracket.

NOTE

Note the location of each bolt during removal as there are two different lengths used.

6. Install a transmission separation device on transmission and tighten to split the gearbox.

CAUTION

Do not attempt to insert anything into the mating seam of the transmission as this will damage the seating face. A damaged seating face will prevent proper mating of the halves and will allow oil to leak out.

7. Lift the left hand housing completely off.
8. If further disassembly of the transmission is required, refer to the **Taurus Parts Manual**, pp. 1-2 for schematic diagrams and parts lists.

Transmission Reassembly

1. Apply gasket sealant (Part No. 486-11) to the seating face of right transmission housing.
2. Press left transmission housing onto right hand casing.
3. Tighten the 15 transmission bolts in a rotating fashion.
4. Fill the transmission with oil. (see **Transmission -- Changing the Oil**, p. OL-4.)

5. Inspect transmission oil level. (see **Transmission -- Oil Level Inspection, p. OL-4.**)
6. Reinstall the trailer hitch bracket.
7. Reinstall the transmission skid plate.

Transmission Installation

NOTE

Assemble the brake components to the transmission before installing the transmission into the frame. (see **Rear Brake Reassembly, pg. BR-9-11.**)

1. Check to make sure that the pivot bearing is clean and undamaged. Replace with a new pivot bearing if necessary.
2. Install a new bearing seal.
3. Position transmission within in its proper place in the frame.

NOTE

Blocking the transmission up and on an easily sliding surface will provide for easier assembly. The input shaft of the transmission must be high enough to locate in the center of the frame pivot bearing ring.

CAUTION

Do not allow the transmission to touch the bearing material or seal during installation, as damage to these parts can occur. A damaged bearing or seal must be replaced.

4. With the transmission centered in place, install the pivot bearing bolt and washer. Do not tighten yet.
5. Apply a light coating of machine oil to the bearing seal to lubricate it for easier main pivot bearing installation.

6. Insert the main pivot bearing into the frame pivot bearing ring. Tap it straight in against the transmission. Be sure to align the screw holes.
7. Apply LOK-TITE to the 5 socket head screws and install with lockwashers to assemble the main pivot bearing and transmission. Tighten alternately.

Torque: 230 in-lbs. (25.88 N-m)

8. Install and tighten bolt, lockwasher and flatwashers to secure lower end of shock to transmission.

Torque: 43 ft-lbs. (5.9 kg-m)

9. Tighten the main pivot bolt to draw the main pivot bearing into position and to seat the seal. Back off the bolt 1 full turn.
10. Reinstall shift lever assembly, clevis pin and cotter pin.
11. Reconnect the transmission vent hose to the frame.
12. Add transmission oil if necessary (see **Refilling the Transmission, pg. OL-4**).
13. Reconnect the hydraulic brake hose to the T-fitting and bleed the brake system. (see **Bleeding the Hydraulic Brake System, pg. BR-13**).
14. Reinstall the outer brake cover and slinger.
15. Reinstall the rear wheels (see **Rear Wheel Installation, pg. WT-4**).
16. Reinstall the driven clutch assembly (**Driven Clutch Installation, pg. CS-7**).
17. Reinstall the battery, tool box, seat, clutch cover and engine cover.
18. Place vehicle with all wheels on ground and without any load on the vehicle.
19. Tighten the main pivot bolt.

Pivot Bolt Torque: 140 in-lbs. (15.75 N-m)

Inspecting the Transmission Vent and Hose

A venting system is located on the right side of the transmission. It prevents pressure build up in the transmission and helps to regulate temperature.

CAUTION

Keep the vent open and the hose properly positioned. Oil will escape or dirt may enter the transmission causing serious internal damage, if the hose is not properly positioned.

EE

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ENGINE & EXHAUST

Engine Repair.....EE-1	Air Filtering System....EE-6
General Instructions.....EE-1	Pre-cleaner.....EE-6
Carburetor Jet.....EE-2	Paper Filter.....EE-6
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For illustrations, parts numbers or parts descriptions please refer to either the Taurus Parts Manual 370-04, the Taurus Operator's Manual 370-01, or the Briggs & Stratton Parts Manual 370-12.

THE BRIGGS & STRATTON ENGINE

Engine Repair

NOTE

All engine service work should be done by a qualified Briggs & Stratton engine technician. Refer to the Briggs & Stratton Twin Cylinder Repair Instruction Manual, Part No. 370-13 (Briggs # 271172) for service details.

NOTE

The following servicing information for the Briggs & Stratton engine refers only to special modifications done by O.D.G.

Carburetor Jet

The Taurus engine uses a special carburetor jet for faster acceleration. Do not substitute.

Throttle Inspection

* see Maintenance Schedule

Inspect the throttle cable and twist grip thoroughly for:

- kinks, fraying or other damage to the cable.
- smooth operation and return in the twist grip.

WARNING

Do not lubricate the cable or twist grip. The lubrication may freeze or collect dirt which may cause the throttle to stick open. Serious injury may result if the throttle cannot be closed to reduce engine speed.

Throttle Cable Adjustment

1. Disconnect spring.
2. Loosen inner throttle wire clamp screw. Straighten inner wire if crooked.
3. Adjust the inner wire so that the throttle arm rests against the stopper when the throttle is closed.
4. Tighten clamp screw.
5. Re-attach spring.

Inner Throttle Cable Replacement

1. Disconnect spring.
2. Loosen inner throttle wire clamp screw. Straighten inner wire if crooked.
3. Remove screw and pry off throttle housing lid.
4. Slide back the rubber boot.
5. Remove inner wire retainer from housing.
6. Pull inner wire out of outer throttle cable.

To install throttle cable:

7. Insert inner throttle wire into outer throttle cable.
8. Locate inner throttle retainer into slot position on throttle twist grip.

NOTE

Be sure to insert the inner wire retainer in the slot marked "Enduro".

9. Reinstall boot and housing lid.
10. Place inner wire under inner wire clamp and into hole on throttle arm.
11. Adjust the inner wire so that the throttle arm rests against the stop when the throttle is closed.
12. Tighten clamp screw.
13. Reattach spring.

Engine Removal**WARNING**

Do not touch the engine or exhaust system while the engine is running or immediately after it has been running. These parts are hot and can cause serious burns if touched.

CAUTION

Refer to Taurus Parts Manual 370-04 for schematic diagrams and parts descriptions.

1. Disconnect the wires from the spark plug and the battery.
2. Remove the engine cover fender, clutch cover, seat and battery.
3. Remove the driver clutch. (see Driver Clutch Removal, pg. CS-5).
4. Remove the 2 screws and spacers securing the inner clutch cover to the engine.
5. Remove the body heat shield.
6. Remove the 4 exhaust manifold screws.
7. Remove the seat support.
8. Remove the air filter assembly.
9. Disconnect the fuel line from the fuel filter.
10. Disconnect the throttle cable from the engine.
11. Disconnect the starter cable and electrical harness from the engine.
12. Remove the clutch cooling hose from the engine.
13. Remove the 4 fasteners securing the engine to the frame.
14. Pull exhaust pipe loose from engine manifold.
15. Place transmission speed shift lever into "H" (High) to get it out of the way for engine removal.

CAUTION

Remove the engine carefully. Serious damage can occur to vital components on and around the engine during removal if not done carefully. Use 2 people for easier removal.

16. Carefully lift the engine from the right side of the vehicle frame.

Engine Installation

CAUTION

The Briggs & Stratton engine used in the TAURUS has been modified. Other engines should not be used.

1. Carefully lift the engine into place in the frame.
2. Install the engine bolts, washers and nuts and tighten securely.
3. Reconnect the wiring harness and starter cable to the engine (see **Wiring Diagram, Taurus Parts Manual p. 16**).
4. Attach the fuel line to the fuel filter.
5. Reconnect the throttle cable and adjust (see **Throttle Inspection, pg. EE-2**).
6. Reinstall the air filter assembly on the engine.

NOTE

Filter installation is easiest from the right side of the vehicle.

7. Assemble exhaust manifold with new gaskets to the engine and tighten to the proper torque.
Torque: 70 in-lbs. (2.25 N-m)
8. Fasten body heat shield to torque converter inner cover if removed.
9. Apply LOC-TITE to the threads and install the torque converter inner cover screws and spacers.
10. Reinstall driver clutch and belt (see **Driver Clutch Installation, pg. CS-6**).
11. Reinstall the seat support.
12. Insert the clutch cooling hose into the engine grommet.

Air Filtering System

The engine is equipped with a foam pre-cleaner and a dry paper filter. The filter accumulates dust and must be cleaned or replaced periodically.

Pre-Cleaner Servicing

* see Maintenance Schedule

1. Clean and re-oil the foam pre-cleaner.

Paper Filter Servicing

* see Maintenance Schedule

1. Inspect and clean the filter. Clean more frequently in dusty conditions. Replace if dirty and after 250 hours.

Exhaust System

Exhaust Manifold Pipe

NOTE

The clutch covers, body heat shield, manifold heat, shield muffler and muffler heat shield must be removed first. You may also find it convenient to remove the plastic seat support.

1. Remove the 4 hex socket head screws securing the manifold to the engine.
2. Slide the manifold toward the front of the vehicle and out.

To re-install the exhaust manifold pipe, complete the above instructions in reverse order. When reinstalling, use new or cleaned gaskets. Tighten the socket head cap screws securely.

Muffler and Muffler Heat Shield**CAUTION**

Remove the muffler and shielding only after it has cooled sufficiently.

1. Remove the plastic and small steel clutch covers to access the muffler pipe clamp.
2. Loosen the pipe clamp.
3. Remove the screw securing the muffler shield to the muffler.
4. Remove the 2 bolts securing the muffler to the frame.
5. Pull muffler off of exhaust manifold pipe. The heat shield will also come free.

To install the muffler assembly, complete the above instructions in reverse order.

WARNING

Do not operate the engine without all exhaust shielding securely in place and in good condition. The shielding of the muffler from the fuel tank is critical for safe operation of the vehicle. The muffler heat shield must be securely in place at all times when the engine is operating. If not in place, heat from the exhaust system can damage the fuel tank, causing fuel to leak and possibly ignite and explode.

Body Heat Shield

1. Remove the plastic clutch cover and steel cover plate and seat to access the shield fasteners.
2. Remove the 2 fasteners securing the heat shield to the torque converter housing.

To install the body heat shield, complete the above instructions in reverse order.

CS

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CLUTCH SYSTEM

Auto Torque Converter.....CS-1	Driven Clutch.....CS-6
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Belt Inspection.....CS-2	Clutch Disassembly.....CS-6
Belt Removal.....CS-3	Clutch Reassembly.....CS-7
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For illustrations, parts numbers or parts descriptions please refer to either the Taurus Parts Manual 370-04 or the Taurus Operator's Manual 370-01.

CLUTCH SYSTEM

Automatic Torque Converter System

The torque converter system automatically regulates the torque delivered by the engine to the transmission. The system consists of a driver clutch on the engine crankshaft, a driven clutch on the transmission input shaft and a drive belt.

1. Press clutch cam down and remove retaining rings.
2. Release press pressure slowly and allow cam to slip off pulley shaft.

NOTE

Use a jawed puller to remove the clutch if it doesn't come apart.

Driven Clutch Reassembly

1. Place spacer(s) and retaining ring onto fixed pulley shaft, as far on as possible.
2. Place sliding cam pulley onto shaft.
3. Place key in keyway of shaft.
4. Locate spring end into hole in sliding pulley.
5. Place fixed cam onto shaft end, and locate spring end into 4th hole. (To locate this hole, look at the inside face of the fixed cam and find the 5 spring holes. Count counter-clockwise to the 4th hole, and place spring end in that hole.)
6. Align key and keyway in fixed cam.
7. Press together while turning the sliding cam pulley counterclockwise 120 degrees (one cam notch).
8. Install retaining rings in grooves. Tap assembly with mallet to make sure rings seat completely against the fixed cam.

Driven Clutch Installation

1. Apply anti-seize compound to transmission input shaft.

NOTE

Be sure to install spacers behind clutch on transmission input shaft if used previously.

WARNING

Do not attempt to make any adjustments or repairs to the torque converter system if the engine is running. Before you service the vehicle, shut the engine off and remove the battery cables to prevent the engine from being accidentally started.

Drive Belt Inspection

* see Maintenance Schedule

NOTE

The drive belt tension and alignment are pre-set at the factory and do not require adjustment.

Inspect the condition of the drive belt. Replace it if:

- The width of the belt measures below 1 5/16 inch (33 mm)
- The belt is cracked, frayed or shredding
- The belt is contaminated with oil or other fluid

Belt Condition	Caused By:	Corrective Action
Glazed Sides	-Clutch malfunction causes belt slippage -Oil on sides	-Inspect and service clutches -Clean or replace
Sheared Cogs or Torn Undercord	-Incorrect belt -Belt damaged during installation -Belt rubbing on fixed object	-Use correct belt -Replace -Eliminate cause
Excessive belt wear on one side	-Clutches misaligned -Loose engine mounting	-Correct alignment -Tighten mounts
Belt worn narrow in one or more places	-Driver clutch malfunction -Wheels stuck while engine rev'd	-Service clutch and replace belt -replace belt

Belt Maintenance

CAUTION

Keep the belt clean and oil free. Protect from sunlight as much as possible. Clean belt with a dry cloth. Remove dirt and grime with soap and water, and rinse well. Allow to dry before using. If belt is contaminated, wash with carbon tetrachloride. Never apply belt dressing of any kind.

Belt Removal

1. Remove the outer clutch cover on left side of vehicle.
2. Remove the inner steel cover which is secured by three wing nuts.
3. Place the speed range selector in N "neutral".
4. Press down on the drive belt a few inches forward of the driven clutch to spread the inner and outer clutch halves.
5. Ease the belt over the fixed edge of the driven clutch.
6. Slip the belt over the driver clutch.

Belt Installation

CAUTION

Install the drive belt carefully so not to damage the belt face. A damaged belt may not perform properly or may come apart during use.

1. Mount the belt over the driver clutch first.
2. Ease the belt over the edge of the fixed face of the driven clutch.
3. Slowly feed the belt over the driven clutch while turning the clutch. Do not pry or twist the belt excessively.

4. Re-install the clutch covers.
5. Run the engine at half throttle for five minutes to break in the new drive belt.

Clutch Maintenance

* see Maintenance Schedule

A complete service of the clutch units is required periodically. To perform this procedure, the clutches must be disassembled.

NOTE

Disassembly and repair of the clutches requires special tools.

Clutch Inspection

Clutch servicing may be required if any of the following conditions occur during normal vehicle operation:

- Drop in vehicle performance
- Clutch does not shift through speeds smoothly
- Clutch hesitates or sticks at one speed
- The vehicle vibrates during clutch operation
- The vehicle does not move when speed range selector is engaged

Visually inspect the exterior of the clutches for the following:

- Check the clutch faces for tracking grooves caused by the drive belt running at one spot
- Check for cracks, dents or loose parts
- Check that plastic slider buttons are not melted or worn more than to 1/16 inch between aluminum cams.

WARNING

Dents or cracks in a spinning clutch can produce serious vibrations which may cause it to shatter and result in serious personal injury and damage to the vehicle.

Driver Clutch Removal and Disassembly**WARNING**

Wear eye protection during clutch servicing. The clutch is spring loaded and can suddenly fly apart.

1. Remove the bolt and washer holding the clutch together.
2. Pull cone cap and sliding pulley off of fixed pulley shaft.
3. Remove spring, washers and bushing.
4. Attach puller tool No. X-1701 to fixed pulley shaft.
5. Apply wrench and turn fixed pulley counter-clockwise off engine crankshaft.

NOTE

Use sharp quick blows against the wrench with a mallet to loosen the pulley from the shaft; or jam the engine flywheel (gain access by removing the rubber duct beneath the air cleaner) and turn the pulley off.

Driver Clutch Reassembly and Installation

1. Place fixed pulley shaft upright on a sturdy level surface.
2. Slide idler bushing, belt adjustment spacer, spring shoulder washer, spring, and teflon bushing onto shaft.
3. Insert steel weights into plastic sliders, and place them into sliding pulley plate.

4. Place sliding pulley plate onto fixed pulley shaft.
5. Slide steel cone cup assembly onto fixed pulley shaft and apply manual pressure.

NOTE

Be sure to align the small hole on the cone cover with the notch on the lips of the sliding and fixed pulleys.

The shaft end of the fixed pulley has a notch which must mate properly into notch on inside of cone cap.

6. Check for proper assembly. Turn sliding pulley against fixed pulley; if they turn, then notches have not properly mated.
7. Tighten clutch bolt to specified torque.

Clutch Bolt Torque: 85 ft-lbs (115.2 Nm)

8. Apply anti-seize compound to the crankshaft thread.
5. Place assembled clutch onto engine crankshaft and turn on clockwise.

Driven Clutch Removal

NOTE

Clutch covers and drive belt must be removed first.

1. Remove clutch bolt and washer and pull clutch from transmission shaft.

Driven Clutch Disassembly

WARNING

Wear eye protection and keep fingers clear of clutch when servicing. The clutch is spring loaded and can suddenly open, turn or fly apart if not handled carefully.

2. Install clutch on transmission shaft with keyways and key aligned.
3. Apply Loktite to bolt thread and install with washers.
4. Tighten clutch bolt.

FS

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FUEL SYSTEM

Fuel System.....FS-1	Replacing Pickup Pipe...FS-3
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For illustrations, parts numbers or parts descriptions please refer to either the Taurus Parts Manual 370-04 or the Taurus Operator's Manual 370-01.

THE FUEL SYSTEM

Fuel System

The fuel system consists of a fuel tank, fuel hose, fuel filter, vent hose and inline breather.

WARNING

Gasoline is extremely flammable and its vapours can explode if ignited. Keep cigarettes, sparks and flames away from wherever gasoline is used, stored or handled. Clean up any spilled fuel immediately.

Fuel System Inspection

* see Maintenance Schedule

Check the fuel system thoroughly. Inspect that:

- the vent hose is securely connected to the fuel tank strap
- the vent hose is not pinched by the fuel tank strap. A pinched or closed hose will not allow the fuel tank to breathe.
- the fuel line is securely attached at all connections. Check for cracks, stiffness, wear and damage.
- fuel leakage is not occurring around the tank, tank cap or any hose.

Draining The Fuel Tank

WARNING

If spilled fuel or the smell of gasoline is detected, do not start or run the vehicle. Keep all sparks and flame away from the vehicle. Clean up spilled fuel immediately.

1. Drain the tank by inserting a siphon hose through the filler opening, down into the sump and siphon out the fuel.

NOTE

Tank can also be drained by removing the fuel line from the filter and allowing the fuel to siphon into a container.

Draining The Carburetor

1. Drain fuel from the tank first. Run the engine to remove any remaining fuel from the fuel line and/or carburetor.

Fuel Tank Removal

1. Remove the 4 bolts securing the fuel tank cover to the rear of the vehicle.
2. Remove the front 2 bolts from fuel tank straps and loosen the back 2 which hold tank in place. Support tank from below.
3. Swing straps out of way of tank and pull out tank.
4. Disconnect tie wraps and hoses etc..

Fuel Tank Installation

1. Connect fuel hose to fuel pickup pipe.
2. Position tank within straps. Insert tank neck through rear deck hole first.
3. Install and tighten fasteners securing tank straps.
4. Secure hoses etc. with tie wraps.

NOTE

Check that hoses and wiring are not pinched.

CAUTION

Rear deck must not press on fuel tank neck. Pressure on neck may cause it to fracture.

Pickup Pipe Replacement**NOTE**

The rear deck or the fuel tank must be removed from the Taurus before the pickup pipe can be replaced.

1. Loosen gear clamp and remove fuel hose from pickup pipe fitting.

2. Unscrew pickup pipe from fuel tank.

CAUTION

Check pickup pipe assembly for leaks by blowing into pickup end while placing finger over fitting end and holding it under water. Replace if it leaks.

3. Apply teflon tape to threaded portion if fitting.
4. Insert into tank and tighten.

CAUTION

Do not over-tighten pickup pipe thread.

5. Install fuel hose with gear clamp on fitting.

Fuel Filter Replacement

* see Maintenance Schedule

1. Remove gear clamps and pull fuel hose from filter ends.
2. Align new filter according to arrow direction of filter.
3. Slip fuel hoses onto new filter and reinstall clamps.

Fuel Tank Vent And Hose Replacement

NOTE

The fuel tank must be removed to gain access to the tank vent system.

1. Loosen vent hose from tie wraps.
2. Unscrew vent assembly fitting from tank.
3. Apply teflon tape to vent fitting thread.

4. Screw Vent assembly into tank.
5. Re-fasten vent hose to frame with tie-wraps. Take care not to pinch hose.

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STEERING & SUSPENSION

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Adjusting Steering Column.....SS-2	Removal.....SS-4
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For illustrations, parts numbers or parts descriptions please refer to either the Taurus Parts Manual 370-04 or the Taurus Operator's Manual 370-01.

STEERING & SUSPENSION

Steering Column Inspection

* see Maintenance Schedule

Check the steering column for proper adjustment:

1. Place a support under the vehicle to raise the front wheel off of the ground.
2. Position yourself in front of the vehicle and grab the front fork at the wheel.

3. Test as follows:

- Push and pull quickly and firmly on the forks. Feel for any looseness in the steering column.
- Turn the axle from side to side. Listen for unusual internal noises and feel for tightness or rough movement.

WARNING

Lack of proper adjustment of the steering column will lead to erratic steering which can result in an accident or personal injury.

Steering Column Adjustment

Support the front of the vehicle under the frame so the front wheel is free and off the ground.

1. Remove the handle bar assembly from the upper fork yoke.
2. Bend down the tab on the slotted lockwasher.
3. Remove the slotted locknut with a **Hook Spanner TAURUS #485-01 (Proto-Mac Tool #C471)**.
4. Loosen the 4 socket cap screws securing the top yoke to the front fork shocks.
5. Remove the top yoke from the steering column and forks.
6. Tighten the now exposed slotted locknut. This presses the tapered roller bearings tighter into their seats.

NOTE

Tighten the nut until looseness in the column has disappeared. Do not overtighten, as the steering must still turn freely.

7. Reinstall the top yoke.
8. Reinstall the slotted lockwasher and locknut. Tighten the locknut and then bend up one of the washer tabs.
9. Reinstall the handle bar.

10. Tighten the socket screws on the top yoke.

Front Suspension

The front suspension consists of a fork type shock absorber system. Rubber boots on the outside of the shock units protect the oil seals from dirt contamination and damage.

Inspection

Inspect the boots for damage and secure fit. Replace immediately if damaged. If shock fluid is leaking out or if the shock is bottoming out, replace the entire damaged shock.

Fork Removal

Support the Taurus at the front of the frame so that both front wheel and front fork hang freely for easy inspection and removal.

1. Loosen the socket screws securing the yokes to the damaged fork.
2. Remove the front axle shaft (see **Front Wheel Disassembly**, pg. WT-2).
3. Remove the front torque arm, if necessary.
4. Pull the damaged fork out of the yokes.

Fork Installation

1. Install the new fork into the yokes.

NOTE

Use chisels to spread the yokes in order to insert the fork.

CAUTION

Do not push the chisel too far into the slot; this may cause the yoke to crack or break. Use the special yoke chisel (Part No. 458-02) for best results.

NOTE

If forks prove difficult to install, loosen the top yoke.

2. Position the height of the forks as shown on page 18 of the Taurus Set-Up Manual, and then tighten the socket set screws.
3. Reinstall the front axle shaft (Front Wheel Disassembly, pg. WT-2).

Rear Shock Removal**WARNING**

The vehicle will drop when the rear shock is removed. The vehicle must be supported to prevent the vehicle from suddenly dropping, which may cause serious personal injury.

1. Support the vehicle frame high enough until the rear wheels almost leave the ground.
2. Remove the lower shock bolt and washers.
3. Remove the upper shock bolt and nut.
4. Tap the shock with a soft faced hammer to release it from the mounting brackets.

Rear Shock Installation

1. Loosely insert the shock, bolt and nut into the top mounting bracket.
2. Install the bottom of the shock, bolt and spacers.

NOTE

Install the shock properly, making certain that it is not upside down. The shock housing should be attached to the transmission bracket if it has been installed correctly.

Before installing the shock into the transmission bracket, be sure that the insert in the outer mounting lug is flush on the inside.

3. Tighten the upper and lower shock bolts.

Torque: 43 ft-lbs (5.94 kg-m)

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WHEEL & TIRE

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Removal.....	WT-1	Correct Pressure...	WT-5
Disassembly.....	WT-2	Tire Inspection....	WT-5
Reassembly.....	WT-2	Repairing.....	WT-6
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For illustrations, parts numbers or parts descriptions please refer to either the Taurus Parts Manual 370-04 or the Taurus Operator's Manual 370-01.

WHEEL & TIRE

FRONT WHEEL

Front Wheel Removal

Support the front of the Taurus so that the front wheel can spin freely.

1. Loosen and remove torque arm nuts.
2. Loosen the brake cable adjustment nut and pull the cable retainer from the brake arm.
3. Insert a 1/4 inch (6mm) diameter rod into the hole in the front axle.
4. Loosen and remove the axle nut.
5. Tap the axle shaft from the left side with a rubber mallet.
6. Pull the axle shaft out from the right side and the wheel will come free.

Front Wheel Disassembly

1. Remove wheel nuts.
2. Turn and lift brake backing plate to remove from the brake drum.
3. Remove spacers from axle housing ends.
4. Pull out oil seals from axle housing ends.
5. Tap out bearings from axle housing ends, by tapping on either end of the spacer tube.

NOTE

Tapping out the bearings is made easier by pressing the spacer tube off to one side.

6. Push out spacer tube and grommets.
7. Loosen fasteners to remove brake drum.

Front Wheel Reassembly

NOTE

All components must be clean. Replace damaged components. Use new oil seals only. Spray metal protector or chain lube into axle housing to protect it from rusting.

1. Press one bearing into axle housing seat.
2. Position grommets 1" (25.4 mm) from each end of spacer tube.
3. Insert tube with grommets into axle housing.
4. Press remaining bearing into place.
5. Press new oil seals into place.
6. Assemble brake drum to axle housing hub.
7. Grease and reinstall spacers.
8. Install brake backing plate and dust cover.

Front Wheel Installation

1. Position the front wheel between the shock forks.

NOTE

Be sure all spacers, dust cover and brake drum are in place. The brake drum must be positioned with the brake arm at the bottom.

2. Align the shock fork axle holes and insert the axle shaft from the left side.
3. Install the fasteners and tighten to the specified torque.

Torque: 20 ft-lbs (2.74 kg-m)

4. Reconnect the brake cable and adjust the front brake (see **Front Brake Adjustment** p. BR-3).

Rear Wheel Removal

1. Place a support under the vehicle to raise the rear wheel off of the ground.
2. Loosen the four wheel nuts and remove the wheel.

Rear Wheel Installation

1. Place the wheel onto the bolts.
2. Tighten the wheel nuts in a cross pattern.

Torque: 40 ft-lbs (5.48 kg-m)

WARNING

Improper tightening of the wheel nuts can result in damage to the rim or uneven wear to the tire. Also, the wheel could fall off during vehicle operation, causing serious injury or death to the driver.

Rear Wheel Hub Removal

1. Locate the rear wheel hub.
2. Remove the cotter pin from the hex slotted nut.
3. Loosen the hex nut and remove the wheel hub.

NOTE

The rear wheel hub can be removed with the wheel attached.

Rear Wheel Hub Installation

1. Before installing the hub, apply anti-seize compound to the axle spline shaft.
2. Slide the hub onto the spline and tighten the hex nut.

Torque: 140 in-lbs.(15.75 N-m)

3. Reinsert the cotter pin and bend it over.

TIRES

Size: 25 x 12 - 9 Inch

CAUTION

This vehicle is equipped with low pressure, tubeless tires. Although the tires are designed for off road use, they are not immune to punctures. Carefully select your riding area and avoid sharp obstacles. Driving on paved surfaces will cause excessive wear to the tire.

Tire Pressure

Normal Cold Tire Pressure: 5 psi. (0.34 kg/cm²)
Maximum (to seat bead): 15 psi. (1.03 kg/cm²)

NOTE

Tire pressure should be checked when the tires are cold. A special low pressure tire gauge (Part No. 619) is available.

Tire Inspection

* see Maintenance Schedule

Inspect the tires for:

- | | |
|----------------------------------|---|
| - proper tire inflation pressure | - cuts, punctures, excessive wear, etc. |
| - valve stem condition | - leakage around the tire seal |
| - good bead contact with rim | - no bead damage |
| - loose wheel nuts | - damaged wheel rims and wheel hubs |

CAUTION

Replace badly worn or damaged tires with the same size and model as originally equipped.

NOTE

When a pressure leak is suspected, locate it by bringing the tire up to maximum allowed pressure. Then place it in a tank of water.

Tire Repair and Replacement**NOTE**

Replace badly worn or damaged tires with the same size and model of tire. To repair or replace a tire you will have to remove it from the rim.

WARNING

Use of a non-standard tire on the Taurus will affect the steering characteristics of the vehicle. Serious injury could result.

Temporary Repair

To temporarily repair a punctured tire, use the plug method. A plug kit, available from most auto parts stores, will provide the parts, tools and instructions to carry out your repair.

General Tire Repair

To more permanently repair a damaged or punctured tire, apply a radial tire patch to the inside of the tire if the damage is less than 3/8" (9.5mm) in diameter. This type of kit is also available from most auto part stores.

Major damage can be repaired at a tire shop using the vulcanizing method.

Tire Removal**NOTE**

Proper tools are required for tire removal.

1. Remove the valve core to deflate the tire.
2. Break both tire beads loose.

NOTE

It is difficult to break the beads if rust has formed on the rim. Apply a soap and water solution or tire mounting lubricant to the rim periphery.

CAUTION

Do not damage the tire bead or rim bead seat. Damage to them will prevent proper sealing.

3. Apply lubricant to both beads.
4. Use one tire iron to hold the bead and another to work the bead over the rim flange. Place the iron at close intervals, working only small bead sections at a time.

Tire Mounting**NOTE**

Be sure the rim is clean and smooth.

1. Apply lubricant to the bead and rim bead seat.

CAUTION

Never use petroleum or silicone based solutions as lubricants. Rim slippage, bead damage or dislodging of the bead may result. A thin liquid soap and water solution is best.

Tire Removal**NOTE**

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1. Apply lubricant to the bead and rim bead seat.

CAUTION

Never use petroleum or silicone based solutions as lubricants. Rim slippage, bead damage or dislodging of the bead may result. A thin liquid soap and water solution is best.

2. Work the bead over the rim flange with tire irons, small sections at a time.
3. Turn the tire over and work the other side.

WARNING

Use a safety cage and remote inflation control valve when seating a tire bead. Never stand near a tire when the bead is seating. Never exceed the recommended beading pressure. The tire can break with an explosive force which can cause serious injury or death.

4. Inflate the tire to 15 psi (1.03 kg/cm²) maximum, to seat the bead.

NOTE

Listen for each bead to pop. If it doesn't immediately do so, leave it sit for a few minutes under pressure.

5. Inspect both beads for proper seating.
6. Install the valve stem and adjust to the proper pressure.

Valve Replacement

1. Demount the outer bead.
2. Push the valve out of the rim, towards the inside of the tire.
3. Insert a new valve from the tire side, and pull into place with a valve puller tool.

NOTE

Be sure the valve seats evenly.

4. Remount the bead and inflate.

ES

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ELECTRICAL SYSTEM

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Inspection.....	ES-2	Replacement.....	ES-6
Installation.....	ES-3	Adjustment.....	ES-6
Charging.....	ES-3	Harness Removal.....	ES-7
Retrofit.....	ES-4	Harness Installation..	ES-7
Spark Plugs.....	ES-4	Tail Lights.....	ES-7
Type.....	ES-4	Replacement.....	ES-7
Removal.....	ES-4		
Inspection.....	ES-5		
Cleaning.....	ES-5		
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For illustrations, parts numbers or parts descriptions please refer to either the Taurus Parts Manual 370-04 or the Taurus Operator's Manual 370-01.

THE ELECTRICAL SYSTEM

The Battery

WARNING

Battery fluid contains sulphuric acid. If it comes into contact with your skin or eyes, serious personal injury will occur. Always wear rubber gloves and safety goggles when servicing a battery.

CAUTION

Batteries produce explosive gases. Keep sparks, flames and cigarettes away from the battery. Re-charge the battery only in a well ventilated area.

NOTE

Keep the battery charged. Never allow the battery to become drained by unnecessary use of the headlights or overcranking of the engine.

Type: GLOBE, 12 Volt, 12 Ampere Hours, 120 Amps.

The GLOBE battery is located between the engine and transmission. It is sealed and "maintenance free".

CAUTION

Do not open battery, as permanent damage will result.

Battery Inspection

* see Maintenance Schedule

Visually inspect the battery for:

- damaged casing
- loose or corroded terminals

After visual inspection, clean, tighten and regrease the terminals to prevent corrosion. Replace the battery if it appears damaged.

Check the battery's charged state with any of the methods suggested in the chart on the next page. For greatest accuracy, use the syringe method.

2. Work the bead over the rim flange with tire irons, small sections at a time.
3. Turn the tire over and work the other side.

WARNING

Use a safety cage and remote inflation control valve when seating a tire bead. Never stand near a tire when the bead is seating. Never exceed the recommended beading pressure. The tire can break with an explosive force which can cause serious injury or death.

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Valve Replacement

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2. Push the valve out of the rim, towards the inside of the tire.
3. Insert a new valve from the tire side, and pull into place with a valve puller tool.

NOTE

Be sure the valve seats evenly.

4. Remount the bead and inflate.

ES

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ELECTRICAL SYSTEM

Battery.....	ES-1	Headlights.....	ES-6
Inspection.....	ES-2	Replacement.....	ES-6
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Charging.....	ES-3	Harness Removal.....	ES-7
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Type.....	ES-4	Replacement.....	ES-7
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THE ELECTRICAL SYSTEM

The Battery

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Battery fluid contains sulphuric acid. If it comes into contact with your skin or eyes, serious personal injury will occur. Always wear rubber gloves and safety goggles when servicing a battery.

CAUTION

Batteries produce explosive gases. Keep sparks, flames and cigarettes away from the battery. Re-charge the battery only in a well ventilated area.

NOTE

Keep the battery charged. Never allow the battery to become drained by unnecessary use of the headlights or overcranking of the engine.

Type: GLOBE, 12 Volt, 12 Ampere Hours, 120 Amps.

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Visually inspect the battery for:

- damaged casing
- loose or corroded terminals

After visual inspection, clean, tighten and regrease the terminals to prevent corrosion. Replace the battery if it appears damaged.

Check the battery's charged state with any of the methods suggested in the chart on the next page. For greatest accuracy, use the syringe method.

State of Charge	Syringe Hydrometer	Digital Voltmeter	5-Ball Hydrometer
100%	1.265	12.60 V	4 Balls Floating
75%	1.210	12.40 V	3 Balls Floating
50%	1.160	12.10 V	2 Balls Floating
25%	1.120	11.90 V	1 Ball Floating
0%	1.100	11.80 V	No Balls Floating

Battery Installation

Type: YUASA, YB-14A-A2, 12 Volt, 14 Ampere Hours, 190 Amps.

The YUASA battery is located underneath the drivers seat.

Charging The Battery

Rate: 4 Amps., 8 Hours Maximum

If the battery is dead, recharge it immediately at the recommended rate. Remove the battery from the vehicle for charging.

NOTE

To avoid sparking and electrical damage, remove the ground cable from the battery first and reconnect it last.

Do not over charge. Charge only until the specific gravity comes up to 1.265 on all six cells. If it will not carry a charge, replace it with a new one.

Self discharge will occur in the battery over a period of time. Recharge an activated, stored battery at least once every month. If the battery is not kept in a charged state, sulfation will occur, permanently damaging the plates.

This battery is shipped activated and charged. However, it is beneficial to give it a short (3 hour) charge before use. Use a charger rated at 2 amps or less unless the charger is an automatic or voltage regulated charger, in which case the charger can be as high as 6 amps. Do not leave the charger on for over 24 hours.

Maintenance

- * Charge the battery before long periods of storage and every month thereafter.
- * Remove the (-) negative lead from the battery when being stored
- * Coat terminals and connectors with grease to reduce corrosion

Battery Retrofit

The type of the battery has changed from Globe LM12-12 to YUASA YB14A-A2. If the Globe battery requires replacement, or if the customer requires a higher power battery, replace with the #433 Battery Retrofit Kit. This kit contains the battery and all necessary components to mount the new YUASA battery. Instructions for retrofitting are included in each kit.

Spark Plug Servicing

*see Maintenance Schedule

Type: 1. Champion J-8 Gap: 0.030 Inch (0.75mm)
 2. Autolight A-71
 3. A.C. GC-46

Torque: 200 in-lbs (2.29 kgm)

Spark Plug Removal

1. Disconnect the spark plug wire.

State of Charge	Syringe Hydrometer	Digital Voltmeter	5-Ball Hydrometer
100%	1.265	12.60 V	4 Balls Floating
75%	1.210	12.40 V	3 Balls Floating
50%	1.160	12.10 V	2 Balls Floating
25%	1.120	11.90 V	1 Ball Floating
0%	1.100	11.80 V	No Balls Floating

Battery Installation

Type: YUASA, YB-14A-A2, 12 Volt, 14 Ampere Hours, 190 Amps.

The YUASA battery is located underneath the drivers seat.

Charging The Battery

Rate: 4 Amps., 8 Hours Maximum

If the battery is dead, recharge it immediately at the recommended rate. Remove the battery from the vehicle for charging.

NOTE

To avoid sparking and electrical damage, remove the ground cable from the battery first and reconnect it last.

Do not over charge. Charge only until the specific gravity comes up to 1.265 on all six cells. If it will not carry a charge, replace it with a new one.

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Spark Plug Servicing

*see Maintenance Schedule

Type: 1. Champion J-8 Gap: 0.030 Inch (0.75mm)
 2. Autolight A-71
 3. A.C. GC-46

Torque: 200 in-lbs (2.29 kgm)

Spark Plug Removal

1. Disconnect the spark plug wire.

2. Clean any dirt from around the spark plug base.
3. Remove the plug with a 13/16 inch deep socket wrench.

Spark Plug Inspection

1. Visually inspect the plug. Replace the plug if:
 - The electrodes are burned away
 - The porcelain is cracked

Spark Plug Cleaning

If the plug is still useable, clean the spark plug gap with a pen knife or wire brush and solvent. DO NOT use an abrasive cleaning machine. Reset the gap as specified.

CAUTION

Tighten the spark plug as specified. An improperly tightened plug can become very hot and may damage the engine.

Fuses

Lighting System: 14 Amp., 1 Inch

Charging System: 25 Amp., 1 Inch

The vehicle has two inline fuses which are accessible through the engine access hole under the seat.

CAUTION

Do not mix the sizes when replacing the fuses. Use of an incorrect size fuse may cause an electrical malfunction or damage to occur.

Refer to the electrical diagram on page 16 of the **Taurus Parts Manual** if you encounter trouble.

Headlights

Bulb Size: H3 Halogen (12 Volt, 55 Watt)

Bulb Replacement

CAUTION

Do not touch the glass portion of the bulb. Damage to the bulb will occur. If you accidentally touch the bulb, clean it immediately with alcohol.

1. Loosen the two screws on the sides of the lamp housing rim.
2. Remove the lense and rim.
3. Disconnect the wire from the main harness and pull it through the housing grommet.
4. Unclip and remove the retainer/support and pull out the bulb unit.
5. Feed the wire from the new bulb through the housing grommet and reconnect it.
6. Position the new bulb and snap in the retainer/support.
7. Replace the lense and rim.

Headlight Adjustment

Adjust the headlights for proper illumination as follows:

1. Position the vehicle on level ground, with the headlights 20 feet (6 M) from a vertical surface.
2. Loosen the two side and one bottom adjustment fastener on the headlight mount.

3. Aim the headlights one above the other.
4. Retighten the headlight adjustment fasteners.

Headlight Harness Removal

To remove the lighting harness:

1. Slit and remove the heat shrink covering the terminals at the headlight.
2. Remove the instrument pod to access the terminals connecting it to the main harness.
3. Disconnect the terminals.
4. Cut the tie-wraps securing the harness to the front rack.

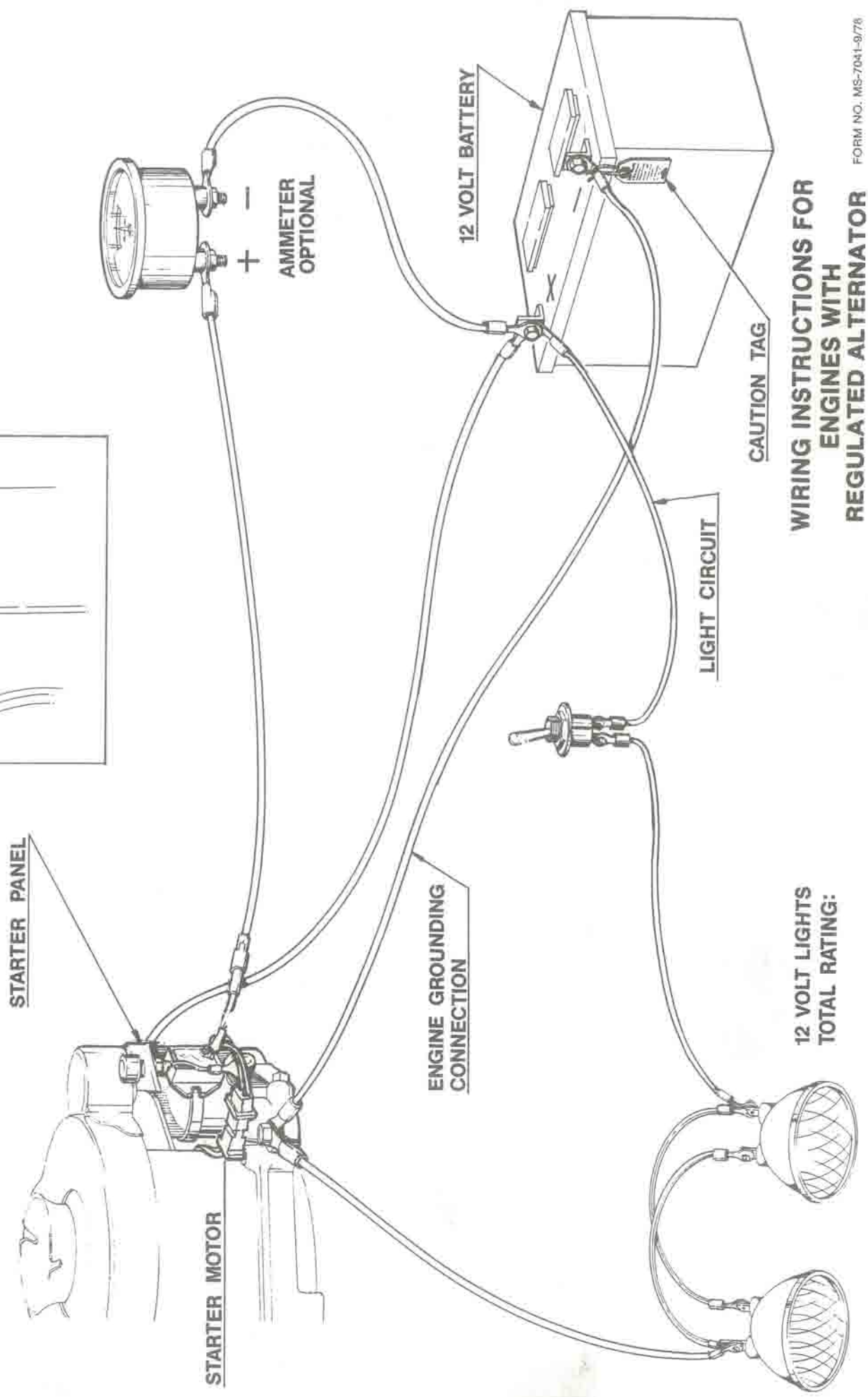
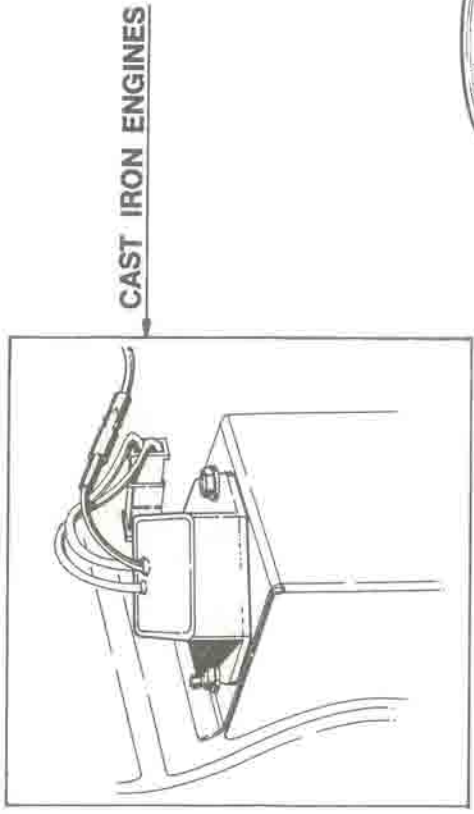
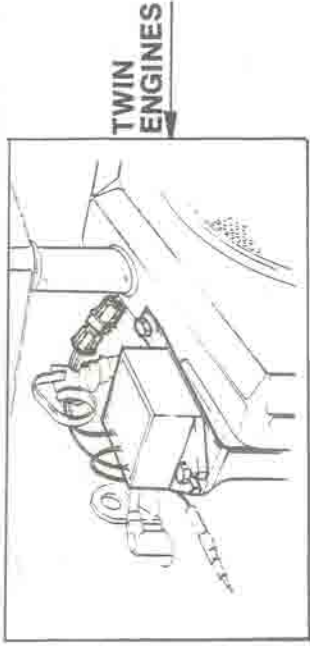
Headlight Harness Installation

1. Run the headlight harness across the back of the front cargo rack.
2. Secure it to the rack with black tie wraps.
3. Run the harness left around the steering column.
4. Cover and connect the terminals with heat shrink material.
5. Reinstall the instrument pod.

Tail Lights

Bulb Replacement

1. Remove the two screws on the outer lense shell to remove the taillight from the tank cover.
2. Separate the lense from the rear bezel by carefully prying them apart with a slot screw driver.



WIRING INSTRUCTIONS FOR ENGINES WITH REGULATED ALTERNATOR

2. Clean any dirt from around the spark plug base.
3. Remove the plug with a 13/16 inch deep socket wrench.

Spark Plug Inspection

1. Visually inspect the plug. Replace the plug if:
 - The electrodes are burned away
 - The porcelain is cracked

Spark Plug Cleaning

If the plug is still useable, clean the spark plug gap with a pen knife or wire brush and solvent. DO NOT use an abrasive cleaning machine. Reset the gap as specified.

CAUTION

Tighten the spark plug as specified. An improperly tightened plug can become very hot and may damage the engine.

Fuses

Lighting System: 14 Amp., 1 Inch

Charging System: 25 Amp., 1 Inch

The vehicle has two inline fuses which are accessible through the engine access hole under the seat.

CAUTION

Do not mix the sizes when replacing the fuses. Use of an incorrect size fuse may cause an electrical malfunction or damage to occur.

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Headlights

Bulb Size: H3 Halogen (12 Volt, 55 Watt)

Bulb Replacement

CAUTION

Do not touch the glass portion of the bulb. Damage to the bulb will occur. If you accidentally touch the bulb, clean it immediately with alcohol.

1. Loosen the two screws on the sides of the lamp housing rim.
2. Remove the lense and rim.
3. Disconnect the wire from the main harness and pull it through the housing grommet.
4. Unclip and remove the retainer/support and pull out the bulb unit.
5. Feed the wire from the new bulb through the housing grommet and reconnect it.
6. Position the new bulb and snap in the retainer/support.
7. Replace the lense and rim.

Headlight Adjustment

Adjust the headlights for proper illumination as follows:

1. Position the vehicle on level ground, with the headlights 20 feet (6 M) from a vertical surface.
2. Loosen the two side and one bottom adjustment fastener on the headlight mount.

3. Aim the headlights one above the other.
4. Retighten the headlight adjustment fasteners.

Headlight Harness Removal

To remove the lighting harness:

1. Slit and remove the heat shrink covering the terminals at the headlight.
2. Remove the instrument pod to access the terminals connecting it to the main harness.
3. Disconnect the terminals.
4. Cut the tie-wraps securing the harness to the front rack.

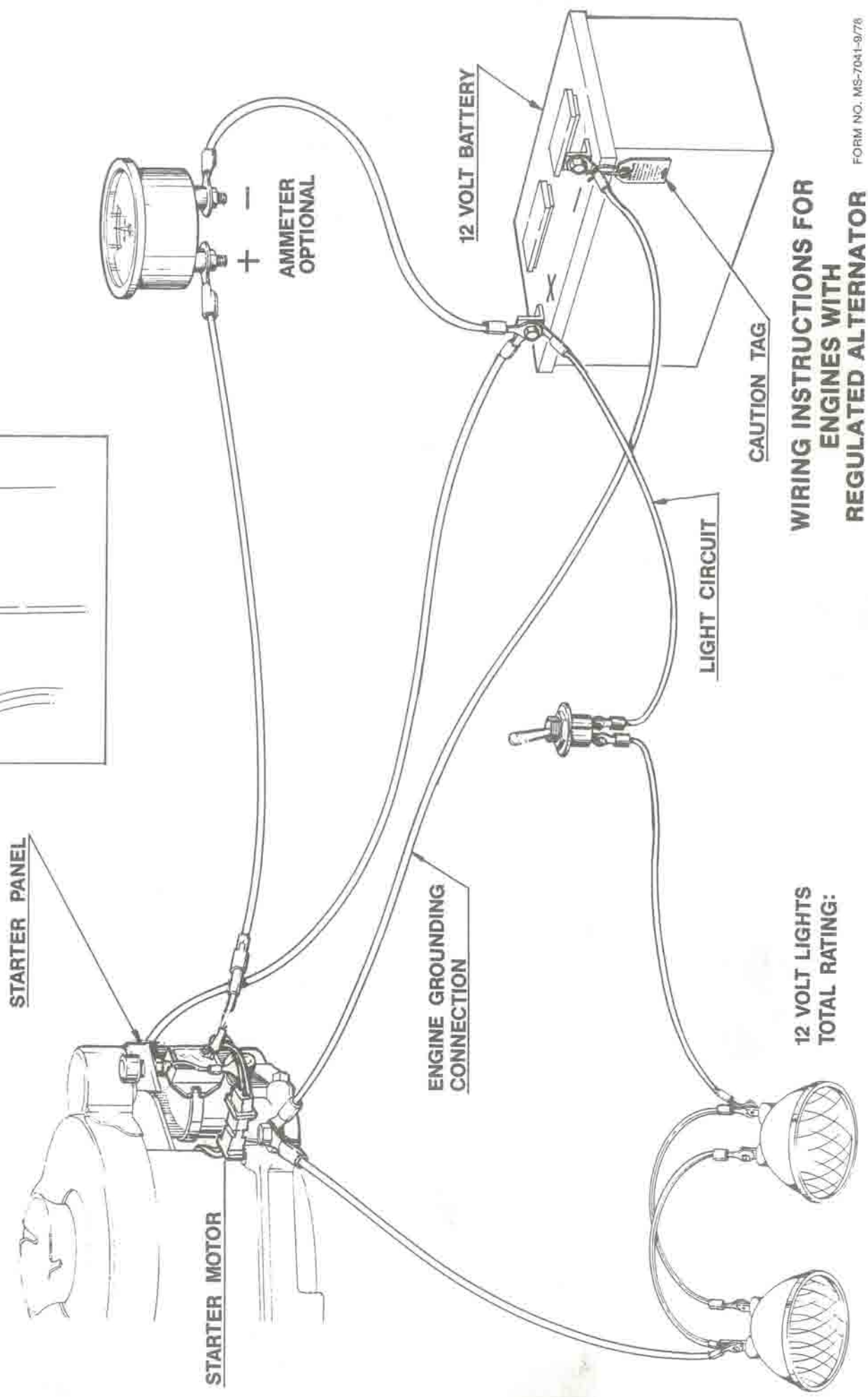
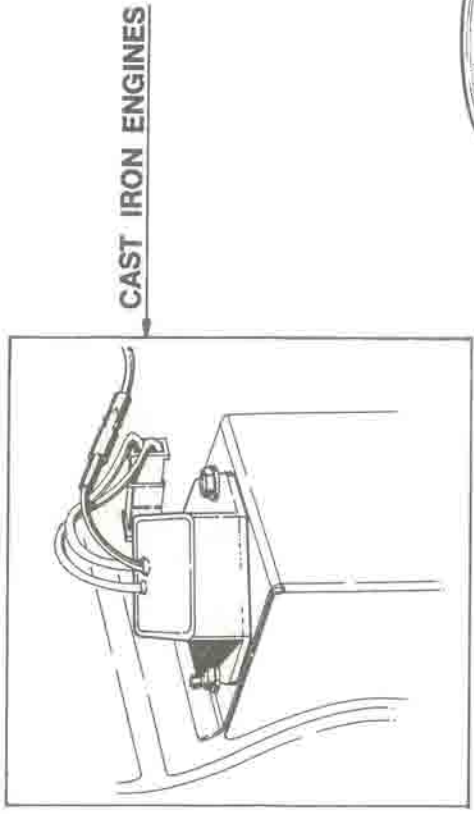
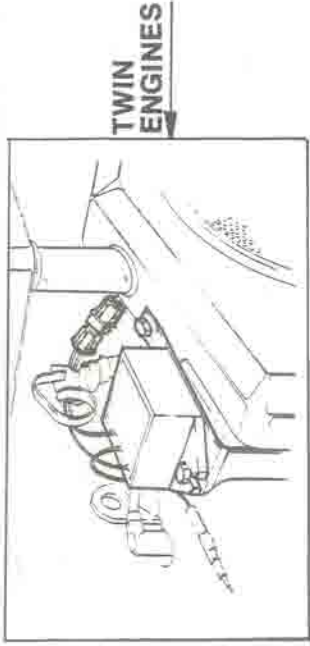
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2. Secure it to the rack with black tie wraps.
3. Run the harness left around the steering column.
4. Cover and connect the terminals with heat shrink material.
5. Reinstall the instrument pod.

Tail Lights

Bulb Replacement

1. Remove the two screws on the outer lense shell to remove the taillight from the tank cover.
2. Separate the lense from the rear bezel by carefully prying them apart with a slot screw driver.



WIRING INSTRUCTIONS FOR ENGINES WITH REGULATED ALTERNATOR