By Appointment
to Her Majesty the Queen
Manufacturers of Motor Mowers:
Charles H. Pugh Ltd., Derby.

By Appointment
to H.R.H. The Prince of Wales
Manufacturers of Motor Mowers:
Charles H. Pugh Ltd., Derby.

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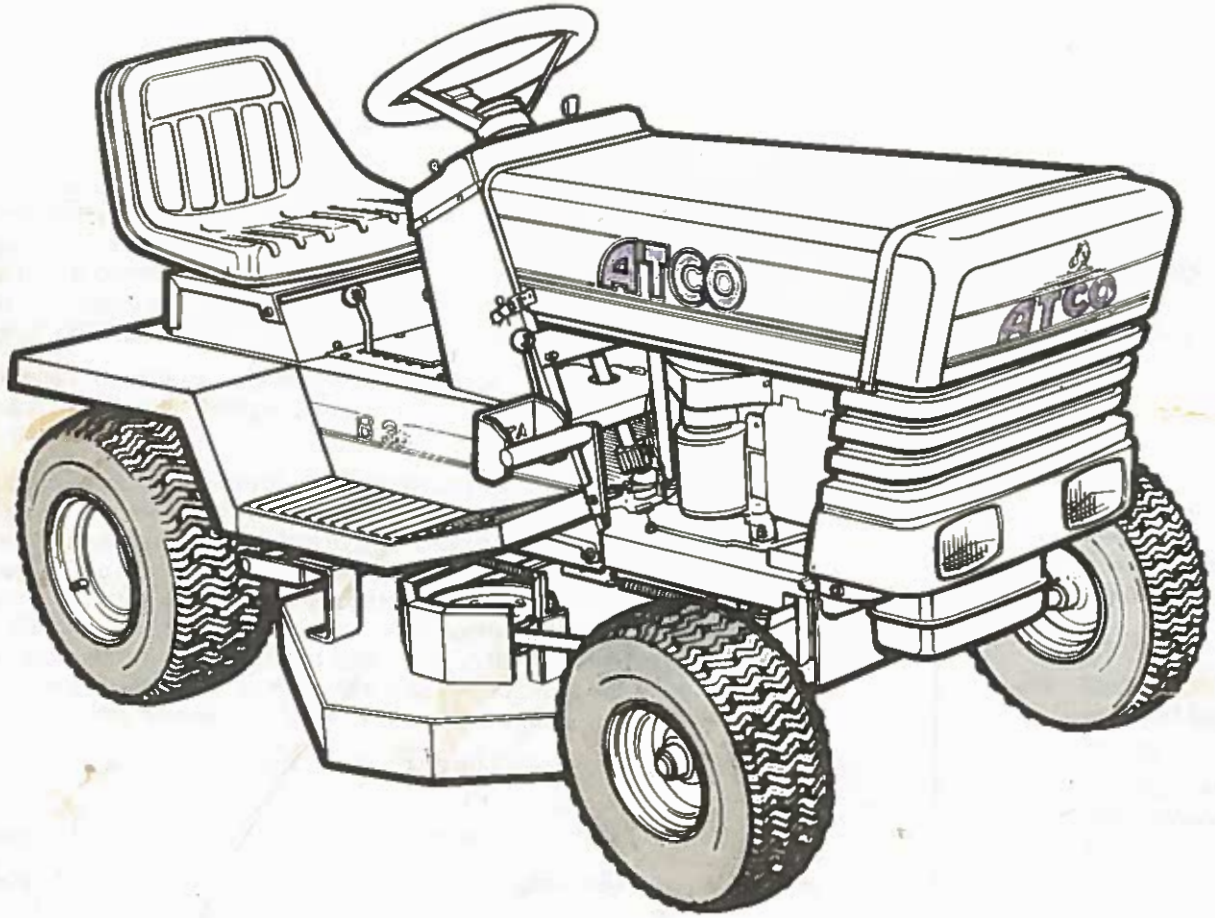
ATCO

LAWN TRACTOR



Operating Instructions and Spare Parts Manual

Contents

Notes

Safety Precautions

Look for this symbol. It means – ATTENTION! Become alert, a hazard to operator, bystanders, property or unit may exist.

1. Know the controls and how to stop quickly. Read the owners manual. Ideally safety glasses or eye shields should be worn when using this machinery.
2. Disengage all attachment clutches, shift to neutral, and apply parking brake before attempting to start the engine. On electric start machines, unless these steps are followed, the engine will not start on ignition because of safety interlocks. In the event of starting on pull recoil it is even more important to ensure that the HAND BRAKE IS ON, and the GEAR SHIFT IS IN NEUTRAL. Failure to do so may result in a run-away tractor. Also when starting on recoil, stand firm and make sure your feet are well away from the cutter blades.
3. When using vehicle as a mower:
   a) Do not operate this mower without the rear chute guard.
   b) Mow only in daylight or good artificial light.
   c) Do not leave the machine running while unattended.
   d) NEVER attempt to clear grass or tamper in any way in the vicinity of the cutter deck while the engine is running.
   e) Ensure all children and animals are well clear of the area being cut.
   f) Always wear substantial footwear, preferably steel toed shoes. Do not wear loose fitting clothes that could get caught in any moving parts.
   g) Avoid any build up of grass within the body interior. This will dry out and become a fire hazard. Regularly clear interior, preferably with an air line.
4. Always place the blade control lever in a disengaged position when not cutting grass, such as when crossing a gravel driveway or roadway and when transporting the mower.
5. **HANDLE PETROL WITH CARE, IT IS HIGHLY FLAMMABLE.**
   a) Use only approved petrol containers.
   b) Never remove cap or add petrol to a running or hot engine, or fill fuel tank indoors. Wipe up spilled petrol immediately.
   c) Check your fuel supply before each use allowing for expansion as the heat from the engine and/or sun can cause petrol to expand.
   d) Never store petrol or equipment with petrol in the tank inside of a building where fumes may reach an open flame or spark. Store petrol and your mower in a safe area secure from children and others.
6. Always turn the petrol off at the tank after use and never leave the key in the ignition.
7. Allow engine to cool before storing in an enclosure.
8. Do not allow children to operate the mower. Never allow adults to operate the mower without proper instructions.

It is imperative in operating and handling the tractor that certain normal precautions be observed to prevent the possibility of injury or damage. Please read the following safety precautions before you assemble or use your tractor.

9. Never attempt to carry passengers.
10. Clear work area of objects which may be picked up and discharged by the mower, typically rocks, stones, wire, cans, branches, bones, toys, etc.
11. Vehicle and attachments should be stopped, engine turned off, and inspected for damage if vibration develops or after striking a foreign object. Any damage should be repaired before restarting and operating the equipment.
12. Stay alert for holes in the terrain and other hidden hazards, tree stumps, manhole covers, etc.
13. Periodically check all nuts and bolts for tightness including the cutter blade mountings.
14. Keep vehicle and attachments in good operating condition and keep safety devices in place.
15. In an emergency your machine will start on the pull recoil in the event of interlock failure. For your added safety, repair the interlock as soon as possible.
16. Disengage power to attachments, stop engine, remove ignition key, apply hand brake and disconnect plug lead before working on any part of the mower or making any adjustments.
17. Never change engine governor setting or over-speed engine.
18. Never start or stop (unless in an emergency) suddenly, especially when going up or down hill, treat your clutch with respect. Mow slowly and with extra caution on slopes. Excessive slopes can be very dangerous and careful thought must be given to the way in which you handle your own particular terrain. Remember, sharp turns can cause tipping or loss of control. Never operate your mower in wet slippery grass where direction is unsure or at a speed which could cause a skid.
19. Watch out for traffic when crossing or near roadways.
20. Do not run the engine indoors. Open doors if engine is running in garage. Exhaust fumes contain carbon monoxide gas which is odourless and a deadly poison.
21. Use care when pulling loads or using heavy equipment.
    a) Use only approved drawbar hitch points.
    b) Limit loads to those you can safely control.
    c) Do not turn sharply. Use care when backing.
    d) Never change gear to reverse your direction until the mower comes to a complete stop.

Pre-Operational Procedures

To Activate Battery

1. Raise seat and disconnect cables from battery, NEGATIVE (BLACK) FIRST.

CAUTION.—When removing battery cables from the battery, always remove negative (black) first. When installing cables onto battery, fit positive (red) first. When handling either cables, always be sure that the spanner does not touch any metal surface or both terminals as damage to the electrical system could result.

2. Slacken wing nuts and slide battery clamp away from battery.
3. Lift battery from unit.
4. Fill battery with electrolytic battery acid, available at most service stations or auto supply stores. (Follow instructions outlined on electrolyte package).

DANGER.—Handle electrolyte with care. It is an acid and can be dangerous. Do not smoke while servicing battery.

5. Allow battery to settle for 20 minutes after filling. Battery will usually be strong enough to start engine if battery charger is not available.
6. For best battery life and service, battery should be trickle charged at 2 or 3 amps overnight.
   NOTE: Battery can be boost charged at 7 amps for 30 minutes if closely monitored to make sure acid does not boil over.
7. Replace battery and connect cables correctly. POSITIVE (RED) FIRST.

To Prepare Engine For Use

1. Place unit so that engine is in a level position, and remove oil filler plug.
2. Using funnel provided fill engine crankcase with oil. SAE 30, or good quality multigrade. Capacity shown in engine literature.
3. Replace filler plug and secure tightly.
4. Fill petrol tank with clean, fresh, 2 or 3 star regular petrol. Do not use high octane petrol. Be sure container is clean and free from rust or foreign particles. Never use petrol that may be stale from long periods of storage in the container.

DANGER.—Never fill the petrol tank while the engine is running or is hot. Immediately wipe off any spilled petrol before attempting to start engine.

Miscellaneous Checks

1. Check tyre pressures. It is important to have the correct tyre pressures. Inflate all tyres as instructed on the side walls.
2. Check all nuts and bolts to ensure none are loose.
3. Check all adjustments listed in the adjustments section of this manual to make sure unit is properly adjusted.

Operation

Familiarise yourself with the equipment and with the safety precautions.

DANGER.—Do not operate this mower without the rear chute guard in place. A ride-on mower can be dangerous to operate if misused. On slopes, be very cautious and avoid very sharp turns t prevent tipping or loss of control.

Your new tractor will give years of service if cared for properly. Never run into trees, kerbs, etc. Service regularly and store in a dry area. Operate your tracto at slow speeds until you become familiar with the machine. Operate tractor carefully and be especially cautious on hills.

CAUTION:

1. Keep all shields in place.
2. Before leaving operators position:
   a) Move gear lever into neutral.
   b) Apply hand brake.
   c) Disengage cutters.
   d) Switch off engine.
   e) Remove ignition key.
3. Wait for all movement to stop before servicing machine.
4. Keep people and pets a safe distance away during use.

Operation

Controls (Refer to Fig. 1)

(1). Throttle control lever.—Regulates engine speed.

(2). Headlight switch (11/36 only).—Will operate only when engine is running.
Stop switch (6/30 only).—Must be set to ON before engine will start and set to OFF to stop engine.

(3). Indicator lights (not 6/30 model).—Gear lever in neutral.
Ignition switch to ON.
Hand brake to ON.
Cutter disengaged.
All lights must be on before engine will start (not 6/30 model).

(4). Ignition switch (not 6/30 model).—Used to start and stop engine.
Recoil start handle (6/30 only).—In conjunction with the ON/OFF switch the recoil start is pulled to start the engine.

DANGER.—It is important at all times that the hand brake is applied, cutters disengaged and gear lever in neutral before attempting to start the engine. THERE IS NO ELECTRICAL INTERLOCK ON THE 6/30 MACHINE.

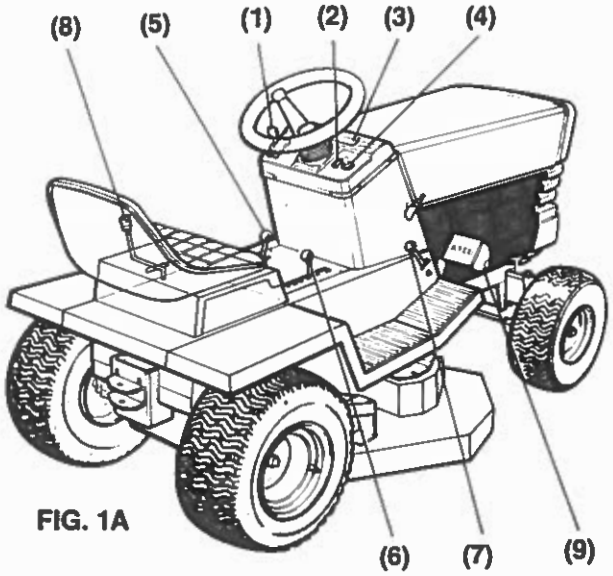


FIG. 1A

(5). Cutter engage lever.—Pull back to disengage cutters, let forward to engage cutters.

(6). Height adjust lever.—Seven heights of cut positions with maximum height in the fully back position. The fully grounded position through the gate is used for unloading and loading only.

WARNING.—Never attempt to cut grass in the UNLOAD position.

(7). Hand brake.—Can only be applied with the clutch/brake pedal fully depressed.

(8). Gear lever.—36" machines – 5 forward, 1 reverse and neutral.
30" machines – 3 forward, 1 reverse and neutral.

(9). Clutch/brake pedal.—Pressed half way down and clutch is disengaged, pressed fully down and brake is applied.

DANGER.—Blades will not stop immediately. Keep hands and fee from under mower and away from discharge chute until the machine is perfectly safe.

To Start the Engine

1. At all times with or without interlock protection you MUST:
   a) Depress clutch lever and apply hand brake. (This automatically keeps clutch/brake in depress position).
   b) Set gear lever to neutral.
   c) Disengage cutters.
2. Place throttle lever to choke position.
3. Turn ignition to start and release when engine is running (not 6/30 model). For 6/30 model, set ON/OFF switch to ON and pull recoil.
4. After engine starts move throttle lever to desired engine speed.
   NOTE: Do not leave control in choke position for longer than is necessary. Not only will the engine run rough but excess choke will be harmful to the engine.

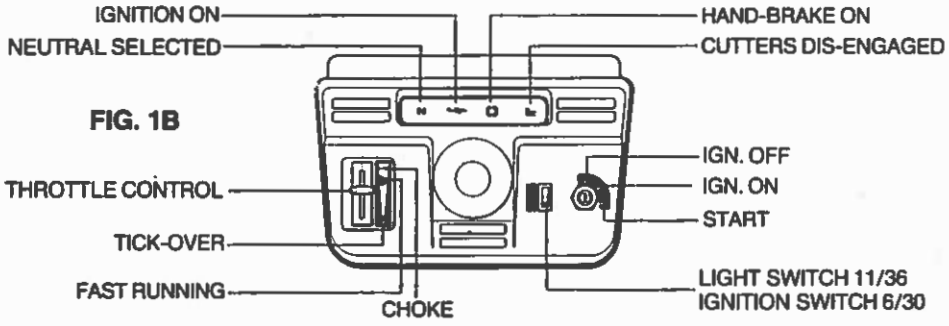


FIG. 1B

Using as a Mower

Take a comfortable riding position on the unit and start the engine as outlined. After engine warms up, ensure clutch/brake pedal is depressed and move gear lever into desired forward gear. With your foot on the clutch/brake pedal release the hand brake. Allow pedal to release slowly and the tractor will move forward. Until you get the feel of the unit, stay in a low speed position. With the mower blades disengaged, make your first run in a large, open area. Learn to start, stop and change direction in this area

To put into reverse, depress clutch/brake pedal and stop completely, select neutral, place left hand under gear lever and lift then push into reverse gear (fully forward).

NOTE: Always come to a complete stop before changing gear. Never force the gear lever.

Your engine speed is controlled by a built-in governor. A faster speed within a selected gear position can be obtained by speeding up the engine speed on the throttle control, taking care not to move into choke. For this reason, it is necessary that the proper gear be selected for the cutting conditions encountered.

See paragraph "MOWER HINTS" for further information.

To stop the engine turn ignition switch to OFF position. (6/30 model set ON/OFF switch to OFF).

Once you learn to manoeuvre your unit, slowly move blade engage control lever to engage position to start mowing. To stop blades, move lever to disengage.

CAUTION.—1. Keep all guards in place.
2. Before leaving operator's position:
   a) Move gear lever to neutral.
   b) Apply hand brake.
   c) Disengage cutters.
   d) Switch off engine.
   e) Remove ignition key.
3. Wait for all movement to stop before servicing machine.
4. Keep people and pets a safe distance away from the machine.

Mowing Hints

One of the important things to learn about all rotary, and especially riding mowers, is that the forward speed of the machine must be controlled in accordance with the type and quality of grass being cut. In other words, the more grass that must be cut, the slower the speed forward must be. When cutting light grass the forward speed can be increased. By observing the cutting action of your mower, you can determine how fast you can travel. Your machine is very manoeuvrable and can be reversed to back out of dead ends. You can also cut in reverse, but this has its limitations as the grass cannot discharge freely in this mode.

Your mower may at times leave unmown strips when long and tender grass is being mown. Tender grass has a high internal moisture content, it is easily depressed by the mower wheels, and may not spring back in time to be cut. To overcome this condition, we advise mowing the lawn in a counter clockwise direction, overlapping previous cut grass, which allows the lifting action of the cutters to lift the grass into the cutting path.

It is possible to spin the wheels under certain conditions. The wheels are driven by a transaxle unit similar to an automobile differential. This makes tight turns possible and prevents marring the lawn. If one wheel slips, shift your weight over this wheel to obtain more pulling power.

Keep the Mower Clean

Grass clippings may pack under the mower chassis due to the moisture content of the grass. This accumulation of cut grass should be removed after each mowing. Disconnect spark plug lead, remove ignition key, set deck height to maximum and scrape accumulation off with a putty knife or similar tool.

WARNING.—The cutters can be very sharp, take extreme care when cleaning the underside of the deck.

Cleaning is easier if the deck is removed and this is a very simple operation as explained in paragraph "MOWER DECK REMOVAL".

NOTE: After each use store the tractor with height adjustment in the mid position and cutter lever engaged. This will help retain the V belt shape and avoid distortion.

Using as a Tractor

This unit is fitted with a tow hitch and can be fitted with a standard Ball Hitch. Only light loads are recommended such as a lawn sweeper, utility cart, or seed/fertiliser spreader. The 11 HP machine will handle a set of three Mini Gang mowers, but the conditions must be suitable. When using continuously as a tractor it may be advisable to remove the cutter deck, see "MOWER DECK REMOVAL".

WARNING.—With the cutter deck removed, the height adjust lever is under extreme tension, and extra care should be taken when moving lever in this condition as it can spring back with great force. It is therefore very important that the lever be carefully eased back to the maximum height position and left there during use with the cutter deck removed. IMPORTANT.

NOTE: Always ensure that the height adjust pin is replaced before using the tractor. (See "CUTTER DECK REMOVAL").

Introduction to Adjustments

1. **Clutch.**
2. **Foot Brake.**
3. **Deck Level.**
4. **Gear Lever and Gate.**
5. **Cutter Brake.**
6. **Cutter Engage Lever.**
7. **Seat.**

All mechanisms will have been adjusted to their correct operating positions before leaving the factory and should require no further attention for some period of time dependent on extent of use.

1. Clutch (Refer to Fig. 2)

In the event of belt stretch or when changing the belt, or any other component relating to the transmission drive, the following method of adjustment is recommended:—

a) Ensure all components are correctly assembled.
b) Release hand brake.
c) Remove clutch spring.
d) Slacken off jockey pulley sufficiently to make adjustment.
e) Pull jockey pulley tightly into drive belt and at the same time ease clutch plate in direction of arrow "A" to take up any slack in clutch link. Position the belt retainer approximately 3 mm away from pulley edge.
f) Re-tighten jockey pulley lightly to hold.
g) Replace clutch spring.
h) Tap belt retainer in direction "B" to within approximately 3 mm of drive belt.
i) Tighten jockey pulley securely.
j) To check, start engine and ensure clutch comes into operation at approximately ¾ travel of the clutch/brake pedal.

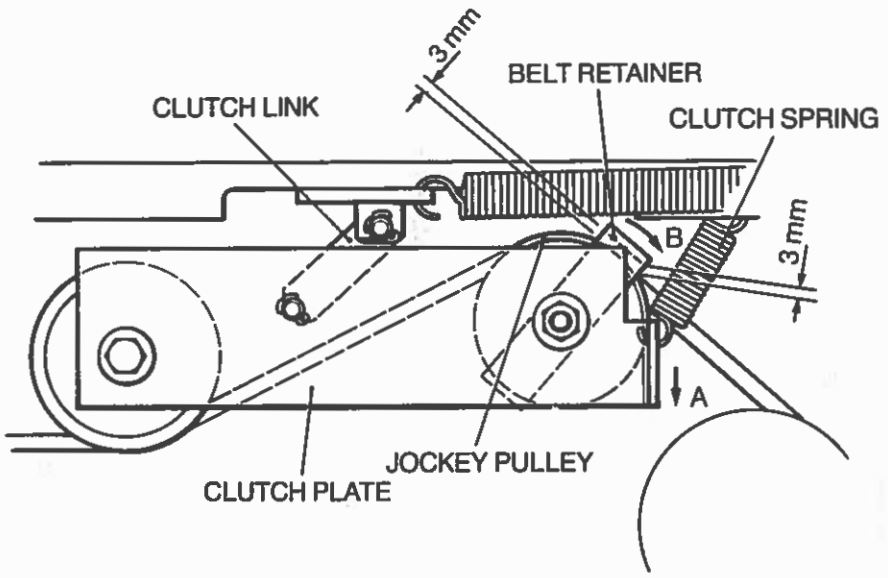


FIG. 2

2. Foot Brake (Refer to Fig. 3 and Fig. 4)

The foot brake and clutch should always be synchronized in such a way that the clutch should be fully disengaged before the foot brake takes effect. The procedure for checking this condition is as follows:—

a) Ensure gear lever is in neutral.
b) Release hand brake.
c) Push tractor backwards and forwards and rear wheels should rotate with ease.
d) Depress clutch/brake pedal half way and retain in this position by placing a bolt or screwdriver in hole "A". (FIG. 3).

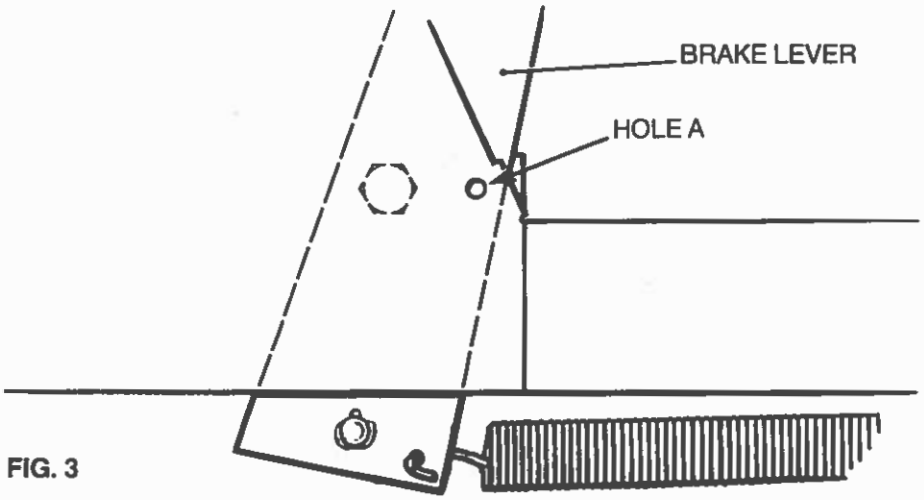


FIG. 3

e) Repeat item c) to ensure rear wheels are still free.
f) Remove temporary retainer and apply hand brake.
g) Tractor should now not move without sliding rear tyres.

If adjustment is required proceed as follows:—
(Removal of R.H. rear wheel would help).
a) Release hand brake.
b) Tighten adjuster nut lightly to take up slack in brake lever. (FIG. 4).

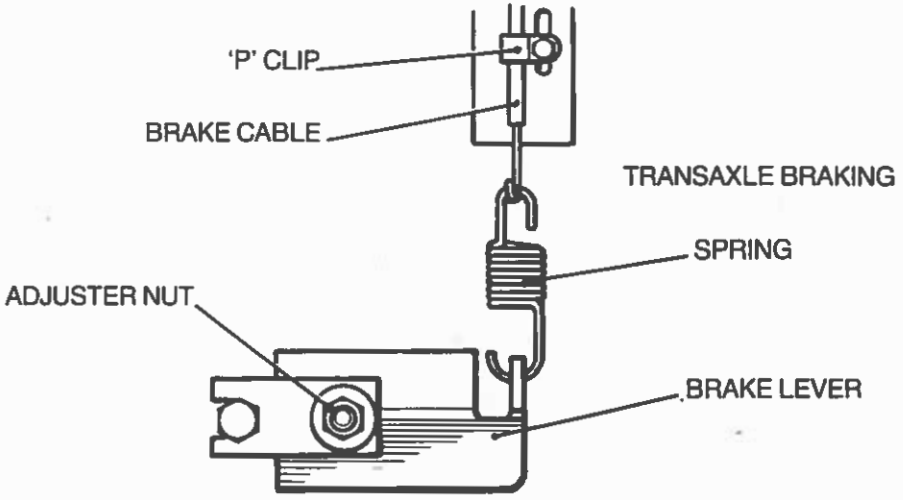


FIG. 4

c) Slacken P clip and carefully reposition cable assembly just sufficient to grip spring then tighten P clip.
d) Release adjuster nut one full turn and check operation as operation 3 (or by turning brake disc if wheel is removed).
e) Continue to adjust adjuster nut for optimum result.

NOTE: Turn adjuster nut clockwise to engage brakes earlier and anti-clockwise to engage later.

3. Deck Level (Refer to Fig. 5)

This should only be necessary if components have been changed, in which case proceed as follows:—

a) Position tractor on hard level ground.
b) Ensure tyres are of correct pressures and equal both sides.
c) Measure distance "X". If tyre pressures are correct this measurement will be the same both sides.

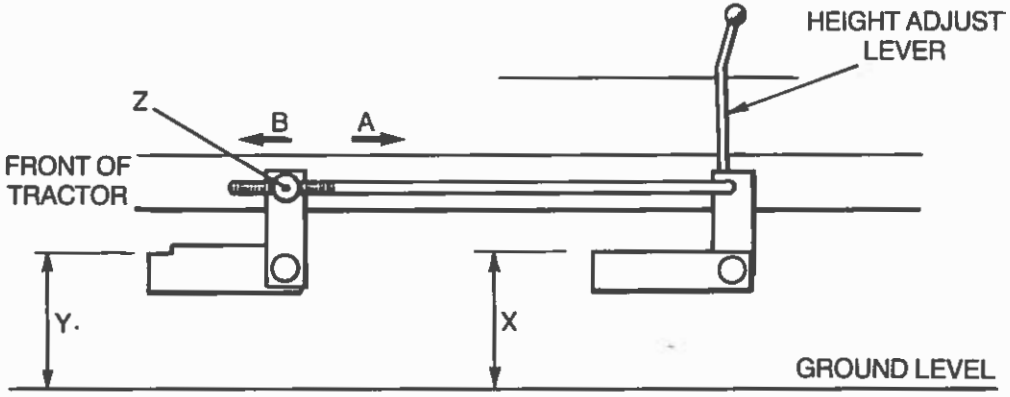


FIG. 5

d) Check dimension "Y" and if different than "X" remove split pin at "Z" and rotate trunnion in direction "A" to raise front support or direction "B" to lower.
e) When satisfied ensure split pin is refitted.

4. Gear Lever and Gate (Refer to Fig. 6)

a) Ensure full movement of the gear lever is achieved from reverse to top gear within the seat box aperture.
b) If necessary adjust by disconnecting the rear link rod and rotating the trunnion until the correct movement is achieved. Re-fit split pin.
c) Set gear lever to neutral.
d) Slacken gate nuts and slide gate until notch is in contact with lever and secure.

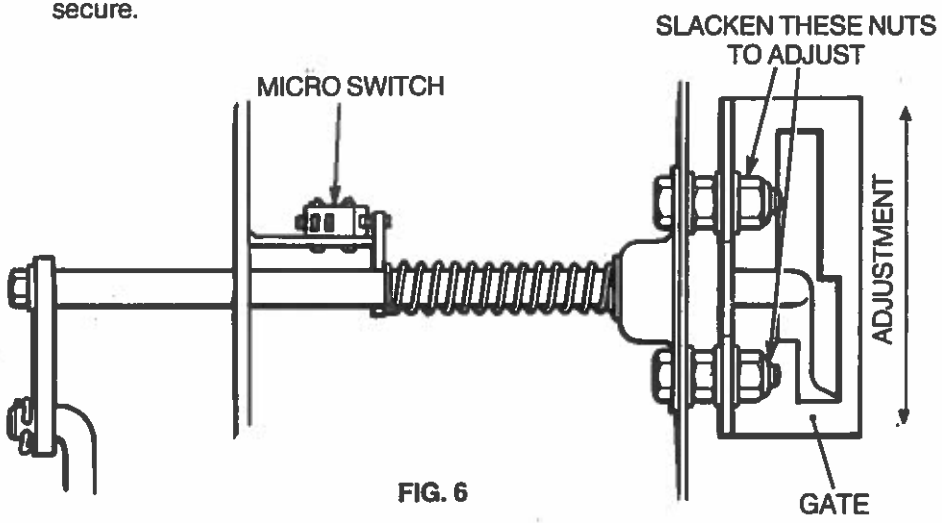


FIG. 6

e) Check by moving gear lever into reverse and forward gears and back into neutral, ensuring neutral is obtained instantly when lever is against notch.
f) It may be necessary at this stage to adjust the Micro-switch (not 6/30 model), if so proceed as follows:—
1) Switch on ignition.
2) Shift gear lever to neutral.
3) Slacken Micro-switch screws and move switch until "N" light on console panel is illuminated. Secure screws.
4) Shift lever into forward and reverse gears and light should extinguish, then back to neutral for light to illuminate. Re-adjust as necessary.

5. Cutter Brake (Refer to Fig. 7)

WARNING.—Although your machine will function quite satisfactory without the cutter brakes, it is extremely important for the safety of yourself and others that they are maintained properly.

Adjustment is carried out as follows:—
a) With cutter deck in place set height to mid-position.
b) Set cutter lever to engage.
c) Slacken spring adjust bracket and slide to a position that will give a result as shown in FIG. 7.
d) Tighten bracket.

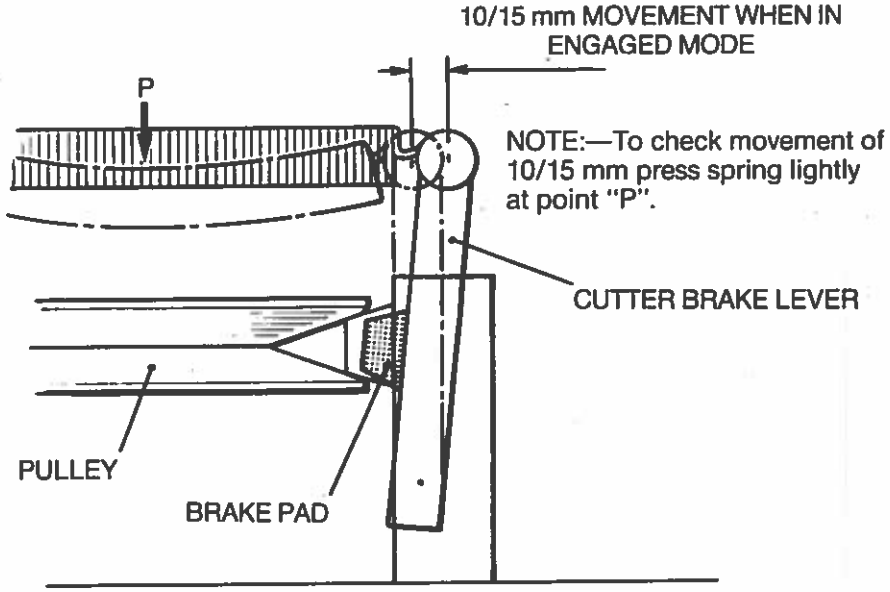


FIG. 7

e) Disengage cutter lever.
f) Check brake is engaged by attempting to move pulley.
g) Check this condition for top and bottom heights of cut and re-adjust as necessary for optimum result.
h) Repeat operation for opposite side.

IMPORTANT.—Ensure brakes are not binding at all height positions in the cutter engaged mode. Binding will cause overheating and damage to the cutter belt.

6. Cutter Engage Lever

Cutter engage adjustment would normally be necessary as a result of belt stretch or replacement. The ideal setting is correct when the lever is positioned within the centre band of the cutter transfer when in the engaged mode. If this is not so proceed as follows:—

a) Set height adjust lever to mid-position.
b) Set cutter lever to dis-engaged.
c) Slacken the two nuts under the cutter deck holding the cutter engage pillar.
d) Move cutter deck toward rear of tractor if lever movement was excessive, or towards the front of tractor if lever movement was insufficient.
e) Tighten nuts and check. Re-adjust as necessary.
f) Adjust cutter brakes as shown above.

7. Seat

Slacken the four screws under the seat lid and slide the seat to a position that will suit your own particular comfort.

In conjunction with the seat adjustment you may wish to change the angle of the brake pedal. This is done by slackening the nut on the pedal bar, position the pedal to suit your comfort and tighten nut.

DANGER.—Always stop the engine, remove ignition key and disconnect spark plug lead before making any adjustments or repairs to the riding mower.

Cutter Deck Removal (Fig. 8 and Fig. 9)

(Removal and replacement of cutter deck is best carried out on hard level ground

1. Place the height adjust lever in the unload position.
2. Move cutter engage lever to the central position and pull upwards. (FIG. 8 – a). You may have to move the lever backwards and forwards a little to allow the locating lug to pass through the chassis, then when satisfied the lever is fully up ease forward to rest. (FIG. 8 – b). This will clear lever from cutter engage pillar.

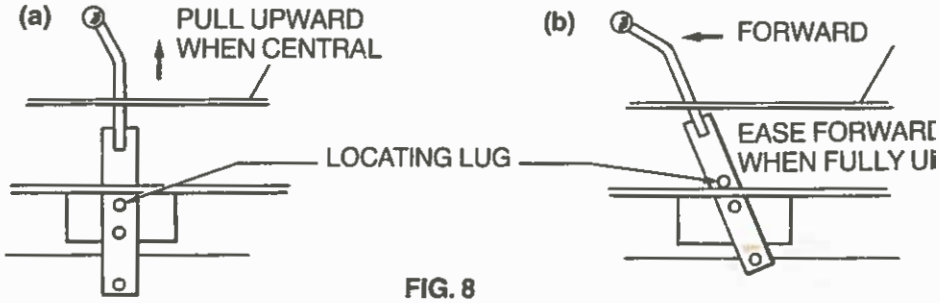


FIG. 8

3. Remove "R" clip and height adjust pin.
4. Remove "R" clip and cutter brake springs from adjuster brackets on both side

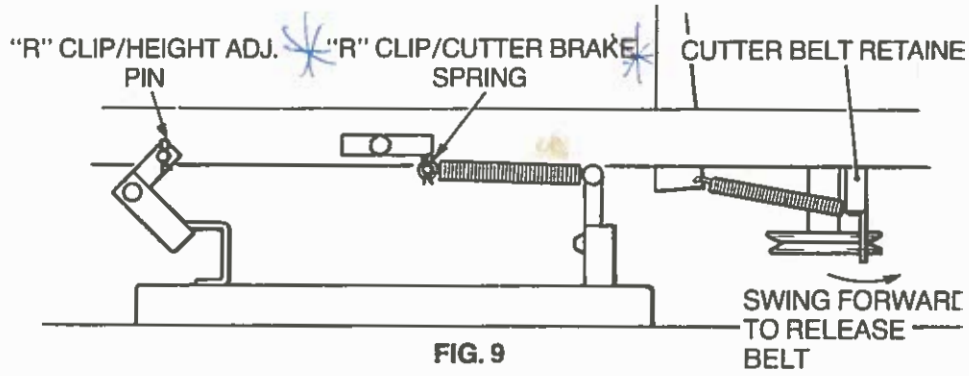


FIG. 9

5. Swing cutter belt retainer forward and release cutter drive belt.
6. Slide deck away from under tractor (right hand side).

NOTE: Take care to manoeuvre the deck in such a way as to avoid damage to protruding parts, cutter brake levers, etc.

IMPORTANT: Always replace the height adjust pin and "R" clip before using the tractor.

Cutter Deck Replacement

1. Ensure height adjust lever is in the unload position.
2. Slide deck under chassis into a central position. (Swing lifting arms under deck hooks to ensure central).
3. Ease cutter engage lever back to central position and ensure lever is level with cutter engage pillar. (You may have to move the tractor a little to line up).
4. When in line, drop lever into position between pillars.
5. Swing lifting arms under hooks and fit height adjust pin and "R" clip.
6. Attach cutter brake springs.
7. Swing cutter belt retainer forward and fit belt to engine pulley.

WARNING.—Ensure cutter brakes are adjusted correctly. (See adjustments section).

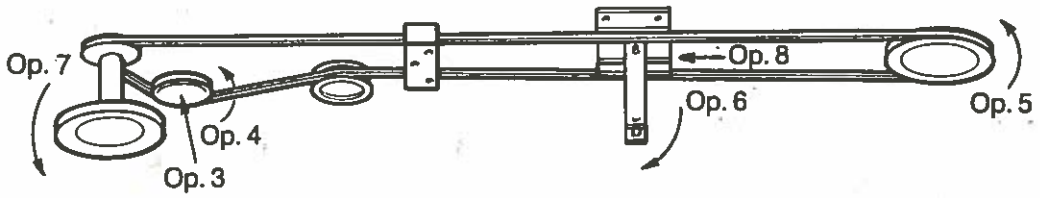
8. Raise deck to suitable height and ensure cutter engage lever moves freely.

Cutter Drive Belt Replacement

1. Remove cutter deck from tractor.
2. Remove three bolts from both deck pulleys.
3. Ease pulleys away from cutter shafts and remove belt.
4. Fit new belt and replace pulleys.

Land Drive Belt Replacement (Refer to Fig. 10)

1. Remove cutter deck from tractor.
2. Apply hand brake.
3. Slacken clutch pulley (jockey), and slide retainer away from pulley.



DRIVE BELT REMOVAL

FIG. 10

4. Slip belt over jockey pulley and away from engine pulley (small).
5. At rear end slip belt over transaxle pulley and slide forward.
6. Loop belt under cutter engage lever.
7. Ease cutter belt retainer forward and slip belt under large engine pulley.
8. Slide belt out through front lift support.

Re-fit belt in reverse order.

Battery Maintenance

1. If mower is used often, check level of electrolyte once a month. If low, add distilled water until fluid reaches split ring indicator. NEVER ADD ELECTROLYTE! If battery needs more than two or three ounces of water in each cell per month, the charging system may be malfunctioning. The alternator may be overcharging and this should be corrected by a trained service engineer.
2. When starter operates properly and battery connections are clean and tight but cranking difficulty is experienced, then battery may not be charged. Battery should be taken to a qualified service station and tested.
3. If engine will not start right away under normal cranking speed, continued cranking will run down the battery and may cause damage to starter. Check ignition and fuel systems and correct fault.
4. The battery should be kept clean. If the top has an accumulation of dirt or grease, remove the battery from the vehicle for cleaning. The battery should be cleaned with a mild solution of baking soda and water. Brush this on, keeping vent plugs tightly in place to prevent any solution from entering the cells. Allow the solution to work for a few minutes, then rinse with clean water and dry. If battery terminals are corroded, clean with a wire brush and coat terminals with petroleum jelly. Be sure to reinstall battery in the same position and properly re-connect battery cables. (Red to positive, black to negative).

Proper care will lengthen battery life. When replacement becomes necessary , use a battery of the same size and type for continued trouble free service.

Blade Replacement

To function correctly, the cutting blades must be sharp, well balanced and straight. Also shape of the blade tip is important to provide good cutting and discharge. It is therefore necessary to bear these factors in mind when re-sharpening and when deciding whether or not to change the blade.

1. Remove mower deck. (See "MOWER DECK REMOVAL").
2. Using $^{9}/_{16}$" AF spanner, remove blade mounting bolts.
   When replacing blades, ensure all components are assembled correctly, failure to do so could result in severe vibration. Make sure blade is correct way round.

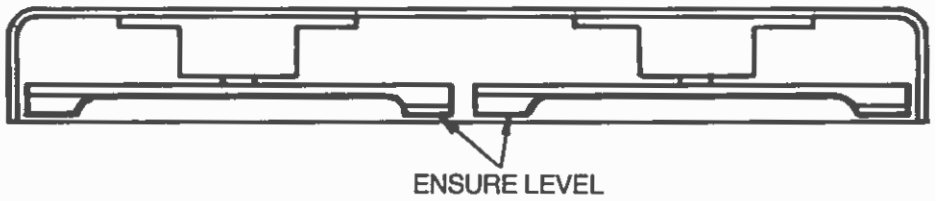


FIG. 11

3. When you are sure blades are tight (30/35 ft/lb), move blades round until they are in line and ensure there is no difference in heights of the tips. Check also opposite tips. Any difference will result in uncut grass down the centre. If necessary remove the blades and straighten.

   Do not attempt to straighten blades without removing them as damage to cutter deck could be caused.

Cutter Brake Pads

IMPORTANT.—Ensure cutter brakes are maintained in good order. Efficient braking of the cutters adds to your safety.

1. If cutter deck is fitted to tractor, lower to unload position.
2. Remove the 6 mm bolt through cutter brake lever (both sides).
3. Extract lever from pillars.
4. Remove the two pad retainer screws from both levers.
5. Replace with serviceable pads and refit levers using the reverse procedure.

Air Filter Maintenance

The air filter should be cleaned and re-oiled after every **25 hours** of operation under normal operating conditions; more often under dusty conditions. To clean air filter, proceed as instructed in engine operation and maintenance manual.

CAUTION.—Never run the engine without the air cleaner element installed. A defective air cleaner can result in loss of engine power and can create excessive wear or damage to engine components if dirt or dust is permitted to enter the engine through the carburettor. REPLACE IMMEDIATELY.

To Change Crankcase Oil

Crankcase oil should be changed after first **5 hours** of operation and every **25 hours** thereafter. See engine operation and maintenance manual for proper procedure.

Check oil level before each use. Add oil as required.

1. Place container beneath oil drain tube (2 quarts minimum).
2. Remove drain plug and drain oil.
   NOTE: Oil filler cap should also be removed to serve as air vent.
3. Replace plug and refill crankcase as outlined in engine manual.
4. Replace oil filler cap.

Lubrication

Lubricate as shown in lubrication diagram. The transaxle has been lubricated for life with grease.
In the event of replacement due to repairs use (1240 – XI) grease or equivalent.
36 oz Total – 800 Series.
26 oz Total – 900 Series.

Lubrication Diagram

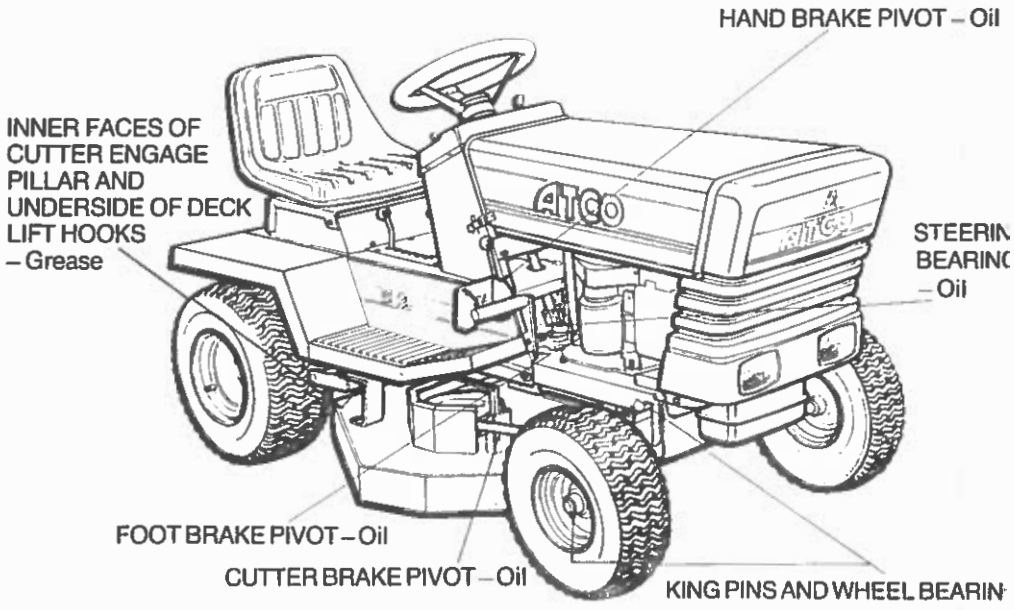


FIG. 12 LUBRICATION CHART

Storage

The riding mower should be prepared for storage at the end of the season or if the unit is not to be used for 30 days or more.

Battery Storage

1. Remove battery.
2. Before storage, add distilled water as necessary and fully charge. A discharged battery may freeze and burst. If possible, place battery in a cool, dry frost proof area. Charge battery every 30 days.
3. Keep battery clean.

Engine Storage

DANGER.—Never store engine with fuel in tank indoors or in enclosed, poorly ventilated area, where fumes may reach an open flame, spark or pilot light as on boiler, water heater, clothes dryer, etc.
Handle petrol carefully. It is highly flammable and careless use could result in serious fire damage to yourself and/or property. Drain fuel into approved container outdoors, away from open flame.

1. Prior to shut down for 30 days or more, and for season storage, drain petrol from fuel tank.
2. Run engine until tank is empty and engine stops due to lack of fuel.
3. Remove spark plug and pour 1 ounce of engine oil through hole in cylinder.
4. Crank engine several times to distribute oil. Replace spark plug.

Lawn Tractor Storage

1. Clean the unit thoroughly.
2. Inspect the unit for all worn or damaged parts, tighten any loose nuts, bolts and screws.
3. Oil all parts shown on lubrication chart.
4. Store the unit in a protected area and cover.

A yearly check-up or tune-up by a qualified repairer is a good way of ensuring that your lawn tractor will provide maximum performance for the next season.

Trouble Shooting Guide

PROBLEM	CORRECTION
Mower cuts ragged or uneven	1. Make certain blades are sharp and in good condition. 2. Check blade mountings for security. 3. Check cutter shaft bearings for damage or wear. Replace if necessary. 4. Remove any accumulation of grass from underside of deck.
Mower leaves unmown strip between blades	1. Check for bent, worn or dull blades. Replace if necessary. 2. Mowing a heavy stand of grass or grass with excessive surface moisture could allow mower to leave a strip unmown. Due to the blade configuration, mowing counterclockwise may at times result in unmown strips. Mow clockwise. 3. Forward speed should be adjusted to suit mowing conditions by gear selection. Engine should run at full throttle.
Mower scalps lawn	1. Check for bent blade(s). Remove and straighten if necessary. 2. Check mower height adjustment. Scapling is more likely on rough or uneven lawns. 3. Check deck levelling adjustment setting and re-adjust if necessary.
Blade drive belt slips	1. If grass is too high or wet, belt slippage may occur. 2. Check belt for wear or damage. Replace if necessary. 3. Check belt tension. Adjust as necessary. 4. Ensure blades rotate freely. Check for seized bearing(s). 5. Ensure cutter brakes are adjusted correctly.
Blade drive belt comes off during use	1. Check belt tension. 2. Check all belt guides. 3. Check belt for damage. Replace if necessary. 4. Ensure cutter brakes are correctly adjusted. 5. Ensure belt travel is clear of obstruction. 6. Check all pulleys for damage or excessive wear.

Trouble Shooting Guide

PROBLEM	CORRECTION
Blades will not engage	1. Check cutter engage adjustment and re-adjust as necessary. 2. If deck lift hooks are fully back against lift-arms before belt is in tension, belt must be too long. 3. Ensure cutter brakes are completely off when cutters are engaged. 4. Check condition of cutter engage spring. Replace if necessary.
Extreme vibration occurs when blades are engaged	1. Ensure blades are correctly balanced. 2. Check for bent cutter shaft. Replace if necessary. 3. Check underside of deck for accumulation of grass and clear as necessary. 4. Check for loose or damaged engine mounts.
Land drive belt slips	1. Check belt adjustment. 2. Check condition of clutch and/or foot brake springs. 3. Check engine pulley for wear or damage.
Land drive belt squeals when brake is applied	1. Check brake/clutch synchronization and adjust as necessary.
Tractor will not move when clutch is engaged	1. See steps 1 to 3 in "Land drive belt slips". 2. Check engine or transaxle for sheared or missing keys. 3. Check transaxle is operable. 4. Check brake/clutch synchronization.
Land drive belt comes off during use	1. Check belt adjustment. 2. Ensure jockey pulley belt retainer is correctly positioned. Adjust if necessary.
Gear change is difficult	1. Check linkage is not obstructed. 2. Check clutching adjustment. 3. Ensure correct gear change procedure is adopted. 4. i.e., tractor must come to a complete stop before changing gear. 5. Have transaxle checked by a competent engineer.

Preventive Maintenance Chart

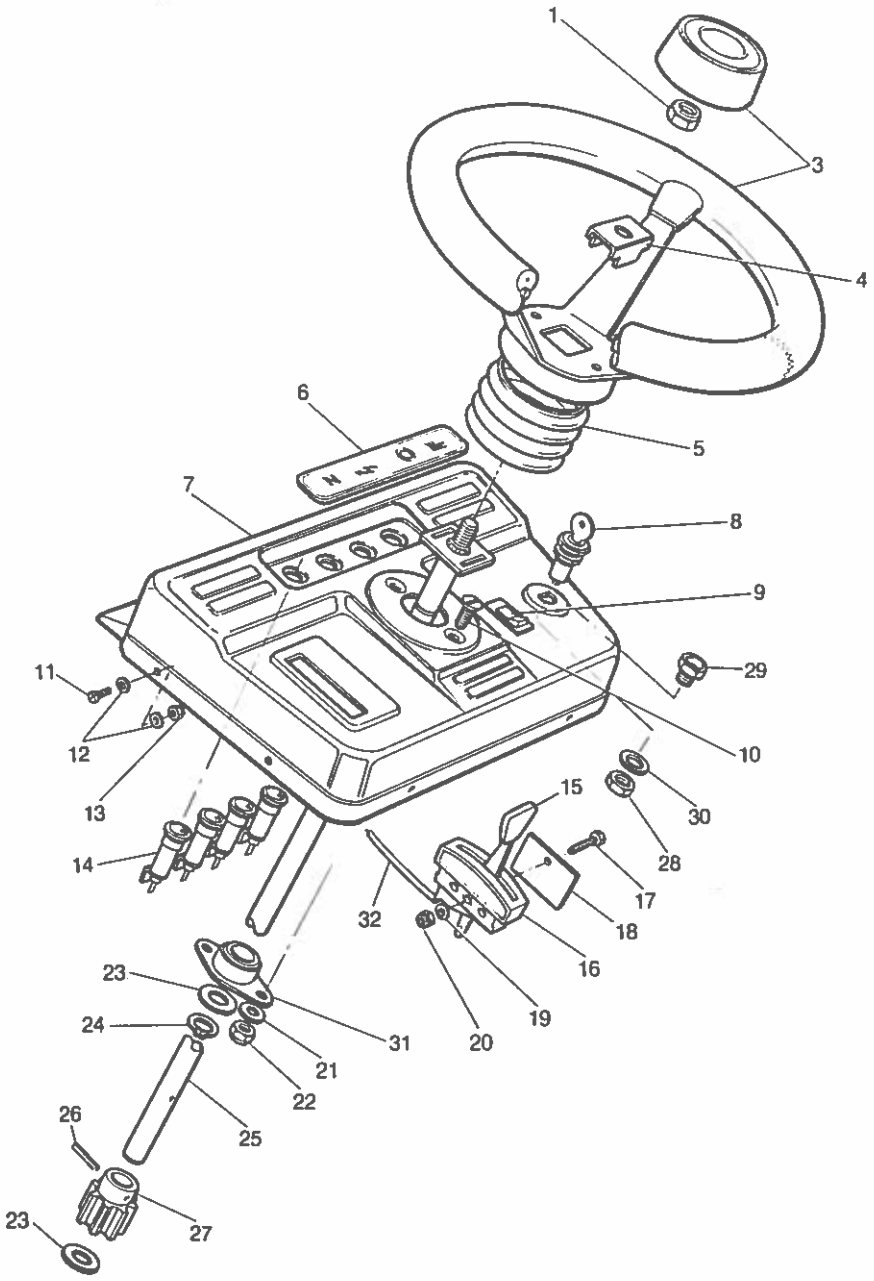
PROBLEM	CORRECTION
Steering slips or is slack	1. Ensure bolts securing steering quadrant pivot are tight. 2. Check bottom bearing setting. 3. Check ball joints for wear. 4. Check centre pivot bolt on front axle. If loose, tighten securely.
Engine will not turn over	1. Check for correct starting procedure. 2. Ensure levers are in their correct pre-starting positions. (To complete interlock). 3. Check battery for charge. 4. Make visual check of the electrical wiring system, loose connections, mis-aligned micro-switch, etc. 5. Have electrical system checked by a competent repairer.
Engine turns over, but will not start	1. Make certain tank is filled with clean, fresh, regular grade petrol. 2. Ensure fuel tap is open. 3. Ensure throttle is in choke or fast position. 4. Check engine according to manufacturer's instructions.

FREQUENCY	PART	CARE
Before each use	Engine crankcase.	Check oil level. Add oil as needed.
Every 25 hours of use or sooner as needed.	Engine crankcase. Engine air filter. Steering wheel shaft. King pins. Front wheel bearings Deck lift hooks. Battery.	Change oil. Clean and re-oil. Oil. Oil. Oil. Grease. Check fluid level.
Every 50 hours of use or sooner as needed.	All the points listed under 25 hour check plus those below. Linkage and pivot points. Tyres.	 Oil all locations. Check pressures as stipulated on tyre walls.
Before storage	Engine.	Drain petrol tank and carburettor. Oil cylinder.

NOTE: When oiling bearings, pivot points, etc., use crankcase oil.

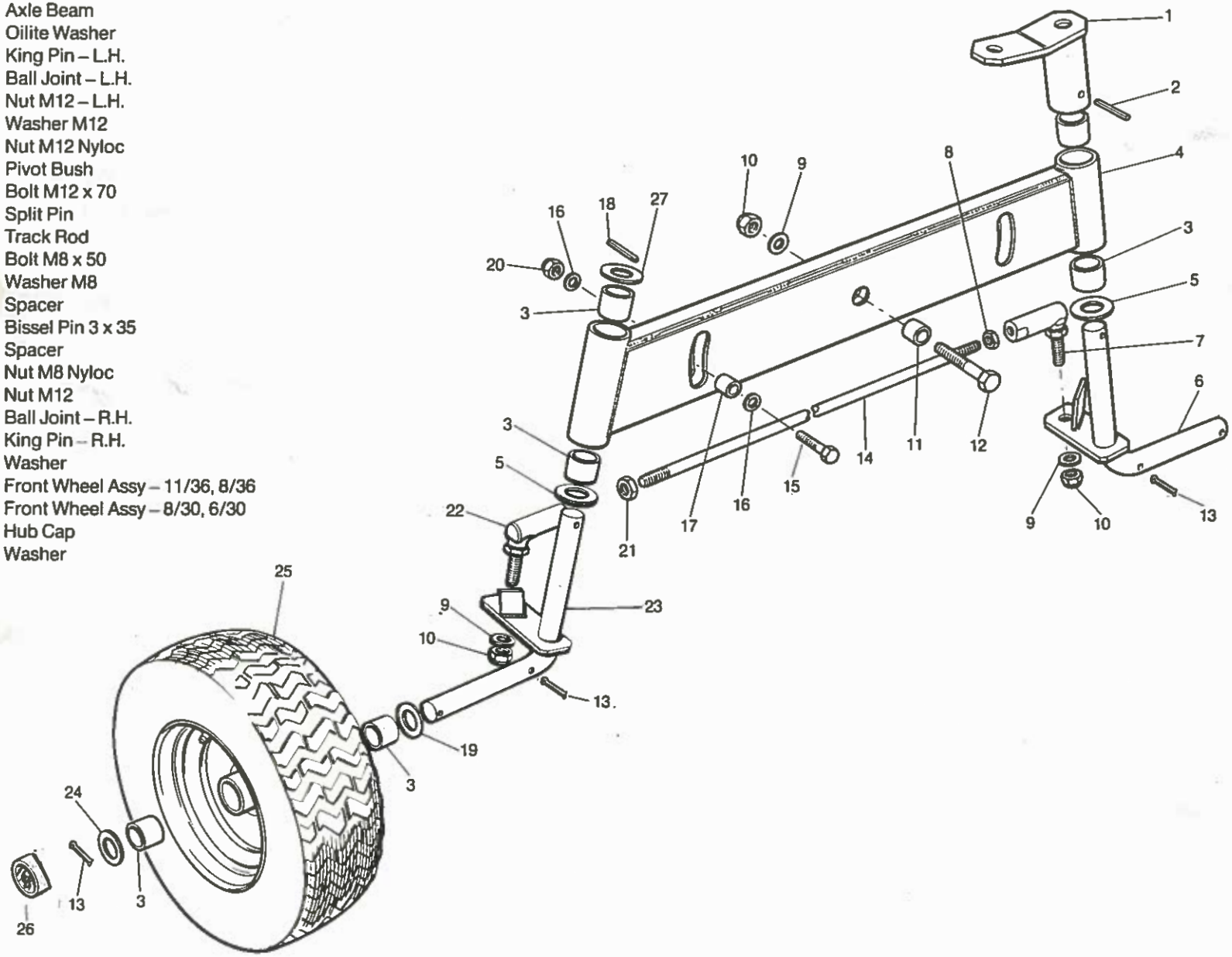
Console Panel Assembly

Item	Part No	Description
1	W25118	Nut M12 Nyloc
3	L24793	Steering Wheel
4	L100509	Steering Wheel Clamp
5	L24794	Bellows
6	L24950	Display – 11/36, 8/36, 8/30
	L24951	Display – 6/30
7	L100539	Console Panel – 11/36, 6/30
	L100558	Console Panel – 8/36, 8/30
8	L24947	Ignition Switch – 11/36, 8/36, 8/30
9	L24949	Switch – 11/36, 6/30
10	W25224	Screw M8 x 20 C/SK
11	W25674	Screw M4 x 16
12	L18301	Washer M4
13	L21759	Nut M4 Nyloc
14	L24946	Lamp
15	L24810	Knob
16	L24952	Throttle Control
17	W25710	Screw M5 x 25
18	L100540	Throttle Retainer
19	L18303	Washer M5
20	L11220	Nut M5 Nyloc
21	L11101	Washer M8
22	L11218	Nut M8 Nyloc
23	L24746	Spacer
24	L24960	'E' Clip
25	L24954	Steering Column
26	L24961	Bissel Pin 6 x 25
27	L24957	Pinnion
28	L18125	Nut M12 – 6/30
29	L32094	Recoil Rope Guide – 6/30
30	L18115	Spring Washer M 12 – 6/30
31	L24911	Flanged Bearing
32	L24953	Throttle Cable



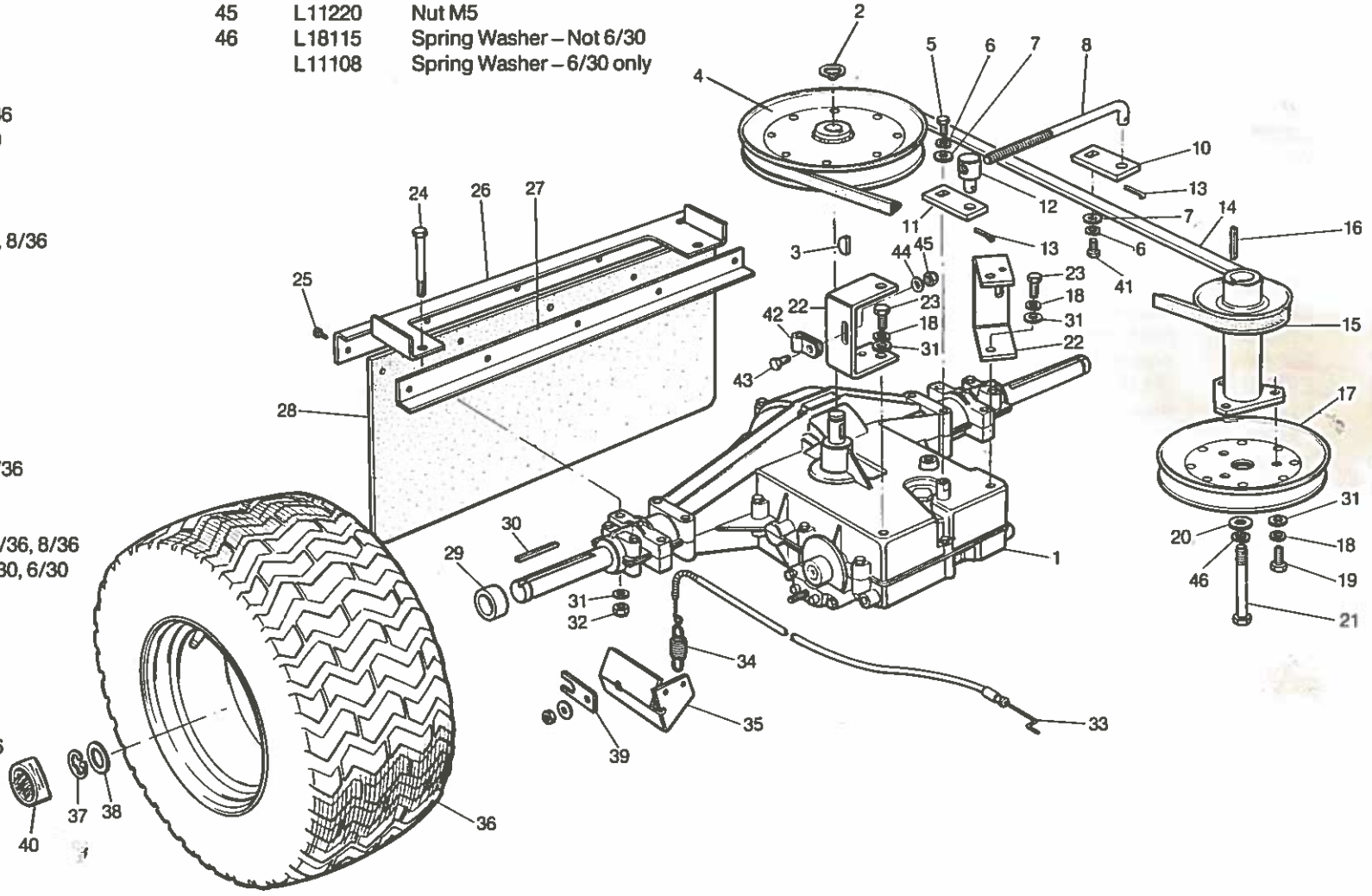
Front Axle Assembly

Item	Part No	Description
1	L100517	Steering Bracket
2	L24864	Bissel Pin 8 x 25
3	L24848	Oilite Bush CM32
4	L100514	Axle Beam
5	L24865	Oilite Washer
6	L100515	King Pin – L.H.
7	L24862	Ball Joint – L.H.
8	L24866	Nut M12 – L.H.
9	L23209	Washer M12
10	L23210	Nut M12 Nyloc
11	L24728	Pivot Bush
12	L24817	Bolt M12 x 70
13	L24867	Split Pin
14	L24860	Track Rod
15	L11386	Bolt M8 x 50
16	L11101	Washer M8
17	L100500	Spacer
18	L24926	Bissel Pin 3 x 35
19	L12531	Spacer
20	L11218	Nut M8 Nyloc
21	L18125	Nut M12
22	L24861	Ball Joint – R.H.
23	L100516	King Pin – R.H.
24	L32340	Washer
25	L24858	Front Wheel Assy – 11/36, 8/36
	L24859	Front Wheel Assy – 8/30, 6/30
26	L32339	Hub Cap
27	W25214	Washer



Transaxle Assembly

Item	Part No	Description
1	L24825	Transaxle (800) – 11/36, 8/36
	L24826	Transaxle (900) – 8/30, 6/30
2	L04976	Circlip
3	L03845	Woodruff Key
4	L24827	Pulley
5	W30569	Screw ¼" UNF x 5/8"
6	L18090	Spring Washer ¼"
7	L10411	Washer M6
8	L24832	Gear Shift Rod
10	L24745	Gear Shift Link
11	L24745	Gear Shift Link – 11/36, 8/36
	L24830	Gear Shift Link – 8/30, 6/30
12	L24743	Locator
13	L14554	Split Pin
14	L24814	Drive Belt
15	L24755	Engine Pulley Assy – 11/36, 8/36
	L32048	Engine Pulley Assy – 8/30
	L24761	Engine Pulley Assy – 6/30
16	L24754	Key
17	L24765	Pulley
18	L11107	Spring Washer M8
19	L11301	Screw M8 x 20
20	L23209	Washer – Not 6/30
	L11102	Washer – 6/30 only
21	L24822	Bolt 7/16" x 4" – 11/36 and 8/36
	L32526	Bolt 7/16" x 3" – 8/30 only
	L24824	Bolt 3/8" x 4" – 6/30 only
22	L100561	Transaxle Support Bkt – 11/36, 8/36
	L100513	Transaxle Support Bkt – 8/30, 6/30
23	L18408	Screw M8 x 20
24	W29855	Bolt M8 x 70
25	L24821	Screw M6 x 12 Self Tap
26	L100553	Guard Frame
27	L100552	Guard Plate
28	L32225	Guard Flap
29	L24838	Wheel Spacer – 11/36, 8/36
	L12531	Wheel Spacer – 8/30, 6/30
30	L24841	Square Key 3/16" sq x 2¼"
31	L11101	Washer M8
32	L11218	Nut M8 Nyloc
33	L24791	Brake Cable
34	W26269	Spring
35	L24833	Brake Lever
36	L24836	Rear Wheel – 11/36, 8/36
	L24837	Rear Wheel – 8/30, 6/30
37	L24840	'E' Clip
38	L32340	Washer
39	L32279	Brake Adjuster Plate – 8/30, 6/30
40	L32339	Hub Cap
41	W25129	Screw M6 x 14
42	L17667	Cable Clip
43	W25710	Screw M5 x 25
44	L18303	Washer M5
45	L11220	Nut M5
46	L18115	Spring Washer – Not 6/30
	L11108	Spring Washer – 6/30 only



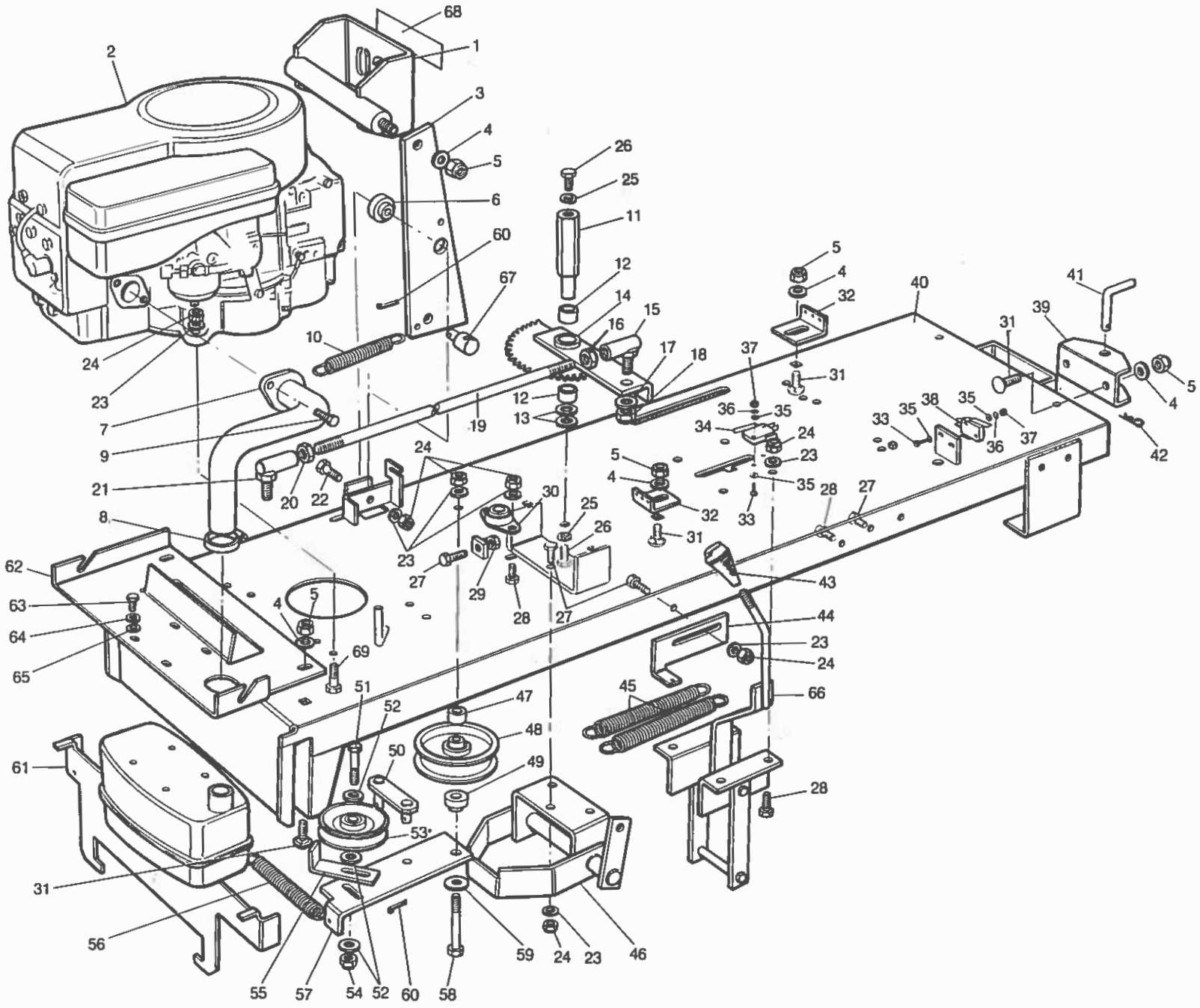
Chassis Assembly

Item	Part No	Description
1	L24787	Brake Pedal
2	L24749	Engine – 11 H.P.
	L24750	Engine – 8 H.P.
	L24751	Engine – 6 H.P.
3	L24784	Brake Lever
4	L11102	Washer M10
5	L11226	Nut M10 Nyloc
6	L24785	Pivot Bush
7	L100570	Exhaust Pipe – 11/36
	L100569	Exhaust Pipe – 8/36, 8/30
8	L21408	Jubilee Clip
9	L20503	Screw ¼" UNC x 5/8" (8 H.P. only)
	W25876	Screw 5/16" UNC x ½" (11 H.P. only)
10	L24783	Brake Return Spring
11	L24906	Pivot Pin
12	L24901	Oilite Bush CM29
13	L24915	Nylon Washer
14	L100524	Steering Quadrant S/A
15	L24862	Ball Joint – L.H.
16	L24866	Nut M12 – L.H.
17	L23209	Washer M12
18	L23210	Nut M12 Nyloc
19	L24898	Steering Rod – 11/36, 8/36, 8/30
	L24899	Steering Rod – 6/30
20	L18125	Nut M12
21	L24861	Ball Joint – R.H.

Item	Part No	Description
22	W25673	Bolt M8 x 35
23	L11101	Washer M8
24	L11218	Nut M8 Nyloc
25	L11108	Spring Washer M10
26	L23211	Screw M10
27	W25213	Screw M8 x 25
28	L11301	Screw M8 x 20
29	L18117	Nut M8
30	L24911	Flanged Bearing
31	L23205	Bolt Cup Square M10 x 30
32	L100519	Spring Anchor
33	L24818	Screw M3 x 20
34	L24730	Micro Switch
35	L24820	Washer M3
36	L32074	Washer Shakeproof M3
37	L24819	Nut M3
38	L24731	Micro Switch
39	L100528	Tow Hitch
40	L100518	Chassis
41	L32075	Hitch Pin
42	L24823	R. Clip
43	L32341	Knob
44	L100508	Return Spring Bracket
45	L24744	Cutter Engage Spring
46	L100526	Front Carrier S/A
47	L24896	Spacer

Item	Part No	Description
48	L24893	Idler Pulley
49	L24894	Clutch Spacer
50	L24767	Clutch Link
51	W30585	Bolt 3/8" UNF x 2"
52	L09966	Washer 3/8"
53	L24895	Jockey Pulley
54	L06956	Nut 3/8" UNF Nyloc
55	L100523	Retainer
56	L24792	Clutch Spring
57	L100522	Clutch Plate
58	L24916	Bolt M8 x 80
59	L17319	Washer M8 x 30
60	L14554	Split Pin
61	L100560	Cutter Belt Retainer – 11/36, 8/36
	L100512	Cutter Belt Retainer – 8/30, 6/30
62	L100527	Bonnet Support
63	L20503	Screw ¼" UNC x 5/8"
64	L18090	Spring Washer ¼"
65	L18129	Washer M6
66	L100521	Cutter Engage Lever – 8/30, 6/30
	L100563	Cutter Engage Lever – 11/36, 8/3
67	L24771	Locator
68	L24796	Pedal Grip
69	W25472	Bolt M8 – 3 off } (6/30 on
	L32526	Bolt 5/16" UNC – 1 off }
	W25673	Bolt M8 x 35 (Not 6/30)

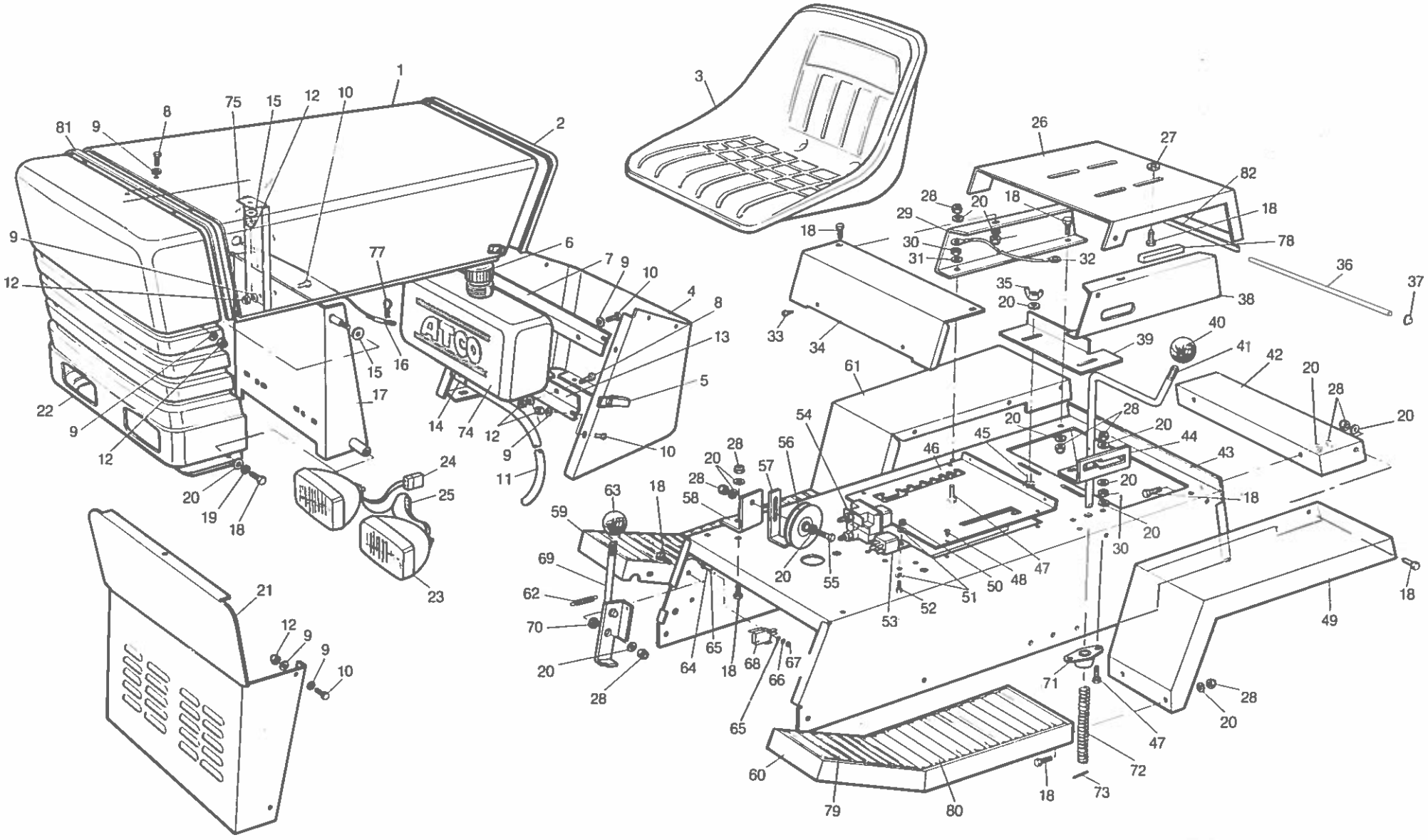
Chassis Assembly



Body Assembly

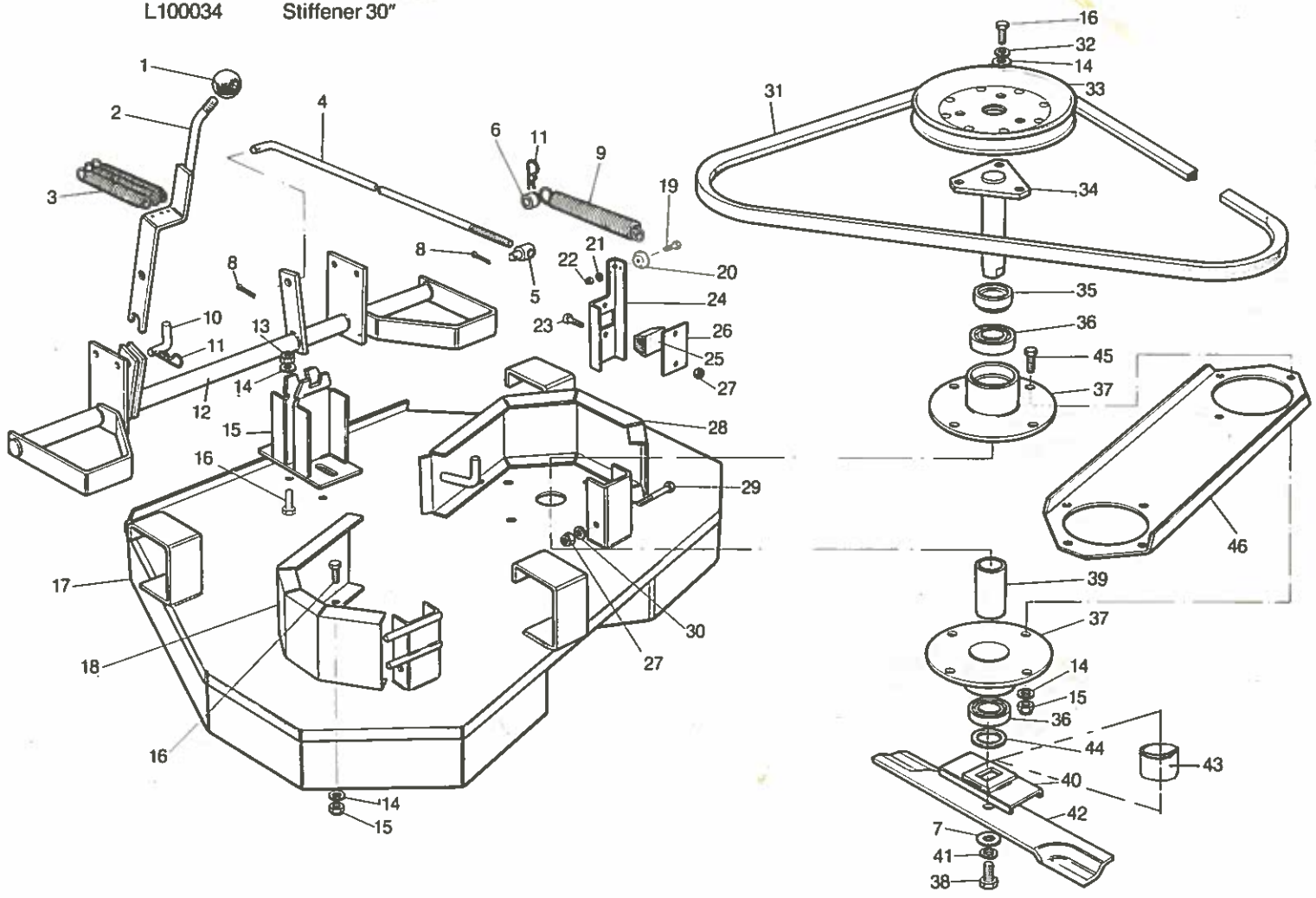
Item	Part No	Description
1	L100541	Bonnet
2	L100242	Edging Strip
3	L13862	Seat
4	L100530	Console Base
5	L24974	Bonnet Clip
6	L22812	Petrol Cap
7	L100511	Petrol Tank Rail – Top
8	W25169	Screw M6 x 18
9	L18129	Washer M6
10	W25129	Screw M6 x 14
11	L32108	Petrol Pipe
12	L10074	Nut M6 Nyloc
13	L100537	Petrol Tank Rail Bottom
14	L22731	Petrol Tap
15	L10411	Washer M6
16	L24811	Bonnet Restraint – 6/30 only
17	L100559	Grill Support – Not 6/30
18	L11301	Screw M8 x 20
19	L11107	Spring Washer M8
20	L11101	Washer M8
21	L100542	Grill – 6/30 only
22	L24963	Grill – 11/36
	L24964	Grill – 8/36, 8/30
23	L24973	Headlight – 11/36
24	L32227	Cable Assy – 11/36
25	W26037	Connector – 11/36
26	L100510	Seat Support
27	L32221	Seat Spacer
28	L11218	Nut M8 Nyloc
29	L100533	Seat Rail – R.H.
30	L18117	Nut M8
31	T41024	Shakeproof Washer M8
32	L24931	Cable Assembly – 11/36, 8/36, 8/30
33	L24821	Screw M6 Self Tap
34	L100504	Seat Box Trim
35	L21109	Wing Nut – 11/36, 8/36, 8/30
36	L24801	Seat Pin
37	L22704	Ratchet Plate
38	L100532	Seat Box Rail – L.H.
39	L100557	Battery Clamp – 11/36, 8/36, 8/30
40	L24810	Knob
41	L24923	Gear Lever – 11/36, 8/36
	L24927	Gear Lever – 8/30, 6/30
42	L100564	Rear Valance – 11/36, 8/36
43	L100529	Tunnel
44	L100531	Gear Change Gate
45	L11328	Bolt, Cup Sq. M8 – 11/36, 8/36, 8/30
46	L100503	Cutter Gate
47	W25050	Screw M8 x 30
48	L11304	Screw M5 x 10 Self Tap
49	L100534	Wheel Arch – L.H.
50	L11220	Nut M5 Nyloc
51	L18303	Washer M5
52	L17589	Screw M5
53	L24922	Relay 11/36, 8/36, 8/30
54	L24921	Solenoid 11/36, 8/36, 8/30
55	W25056	Bolt M8 x 40 }
56	L24895	Pulley } 6/30 only
57	L100523	Retainer }
58	L100538	Pulley Bracket }
59	L100507	Foot Rest – R.H.
60	L100506	Foot Rest – L.H.
61	L100535	Wheel Arch – R.H.
62	L24940	Hand Brake Spring
63	L24809	Knob
64	L24818	Screw M3 x 20 }
65	L24820	Washer M3 }
66	L32074	Washer M3Shakeproof } 11/36,8/36,8/3
67	L24819	Nut M3 }
68	L24731	Micro Switch }
69	L24936	Hand Brake
70	L24939	Hand Brake Pivot
71	L24924	Flanged Bearing
72	L24925	Spring
73	L24926	Bissel Pin
74	L24803	Petrol Tank
75	L100571	Bonnet Strut
76	L24732	Electrics Loom
77	L24823	'R' Clip
78	L24802	Suspension Rubber
79	L24781	Rubber Mat – Front Left
	L24782	Rubber Mat – Front Right
80	L24780	Rubber Mat – Rear Right
	L24779	Rubber Mat – Rear Left
81	L100241	Edging Strip – Bonnet
82	L100243	Edging Strip – Seat

Body Assembly

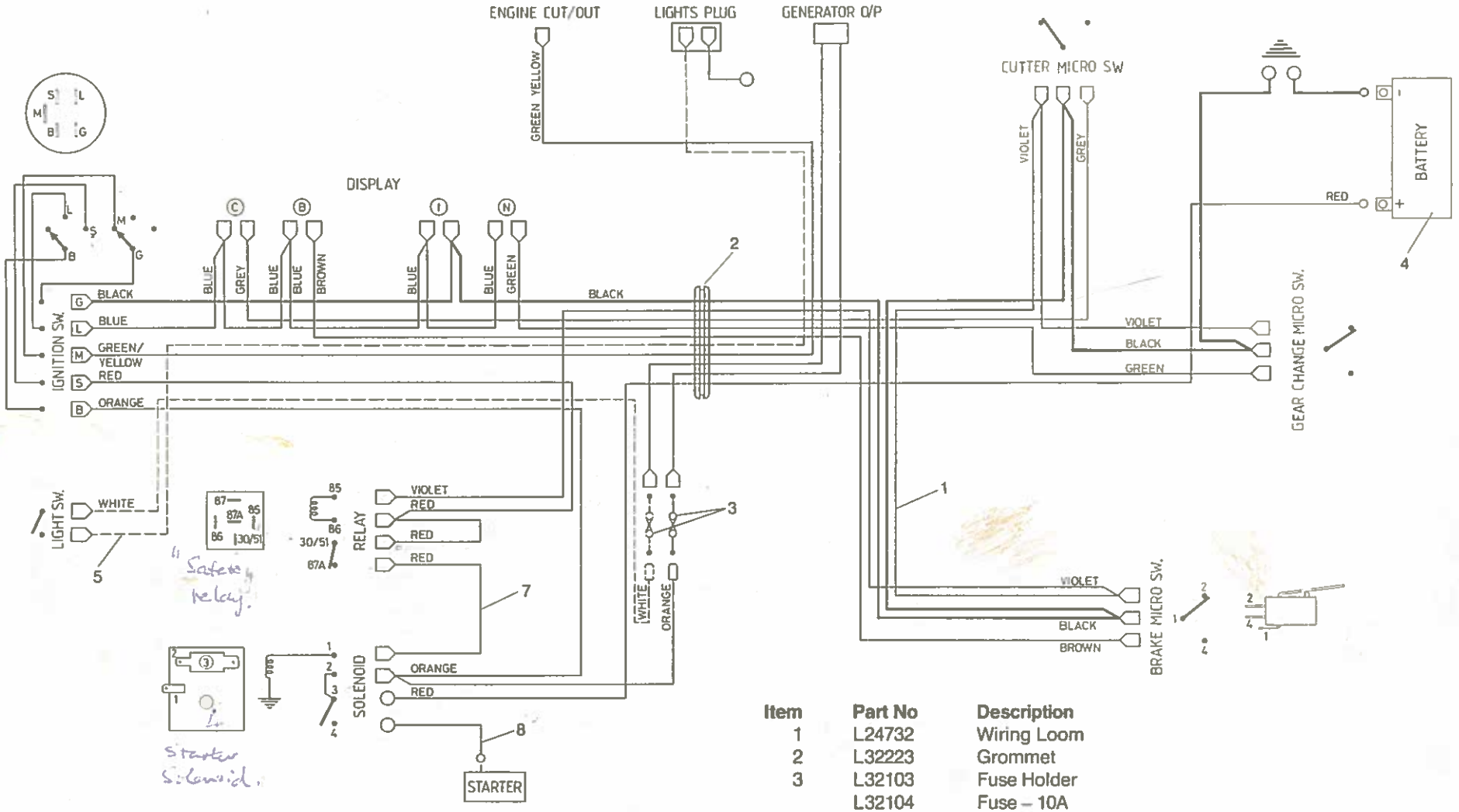


Cutter Deck

Item	Part No	Description
1	L24810	Knob
2	L100501	Height Adjust Lever
3	L24736	Balance Spring
4	L24742	Link Rod
5	L24743	Locator
6	L24775	Spring Pivot
7	L11102	Washer M10
8	L14554	Split Pin
9	L24783	Cutter Brake Spring
10	L24806	Height Adjust Pin
11	L24823	'R' Clip
12	L100502	Cutter Deck Lift
13	L11218	Nut M8 Nyloc
14	L11101	Washer M8
15	L100546	Cutter Engage Pillar
16	L11301	Screw M8 x 20
17	L100565	Cutter Deck – 36"
	L100543	Cutter Deck – 30"
18	L100550	Pulley Guard – R.H.
19	W25674	Screw M4 x 16
20	L32043	Spring Pivot
21	L18301	Washer M4
22	L21759	Nut M4 Nyloc
23	W25169	Screw M6 x 18
24	L100568	Cutter Brake Lever – L.H. 36"
	L100548	Cutter Brake Lever – L.H. 30"
	L100567	Cutter Brake Lever – R.H. 36"
	L100547	Cutter Brake Lever – R.H. 30"
25	L24994	Brake Pad
26	L24783	Pad Retainer
27	L10074	Nut M6 Nyloc
28	L100554	Pull Guard – L.H.
29	W25553	Bolt M6 x 60
30	L18129	Washer M6
31	L24812	Cutter Belt – 36" M/C
	L24813	Cutter Belt – 30" M/C
32	L11107	Spring Washer M8
33	L24765	Pulley
34	L24978	Cutter Shaft
35	L24977	Pulley Spacer
36	L23166	Bearing
37	L24985	Bearing Housing
38	W30582	Screw 3/8" UNF x 1"
39	L24986	Spacer Tube
40	L100544	Cutter Mount
41	L11108	Spring Washer M10
42	L100566	Cutter Blade – 18"
	L100545	Cutter Blade – 15"
43	L100555	Dirt Seal
44	L24980	Cutter Spacer
45	W25213	Screw M8 x 25
46	L100026	Stiffener 36"
	L100034	Stiffener 30"



Wiring Diagram



Item	Part No	Description
1	L24732	Wiring Loom
2	L32223	Grommet
3	L32103	Fuse Holder
	L32104	Fuse – 10A
4	L24805	Battery
5	L32222	Headlamp Socket Lead – 11/36
6	L17137	Lead Assembly – 6/30 only (not shown)
7	L32230	Rel./Sol. Link
8	L32228	Starter Lead

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L24280
A2

INSTRUCTION LEAFLET FOR NEW BRAKE CABLE FOR TRACTOR

FITTING NEW BRAKE CABLE

Slacken off the foot brake by turning adjuster nut on transaxle anti-clockwise. Remove existing brake cable.

Thread new cable (Item 6) through the appropriate holes in tractor chassis.

Fit spring to the brake lever on the transaxle.

Thread cable through hole in clip (Item 5).

Push clip over brake anchor bracket on chassis.

Ensure groove in outer cable ferule is engaged in the slot in brake anchor bracket.

Fit clevis (Item 3) to brake cable.

Fit spacer (Item 2) to clevis.

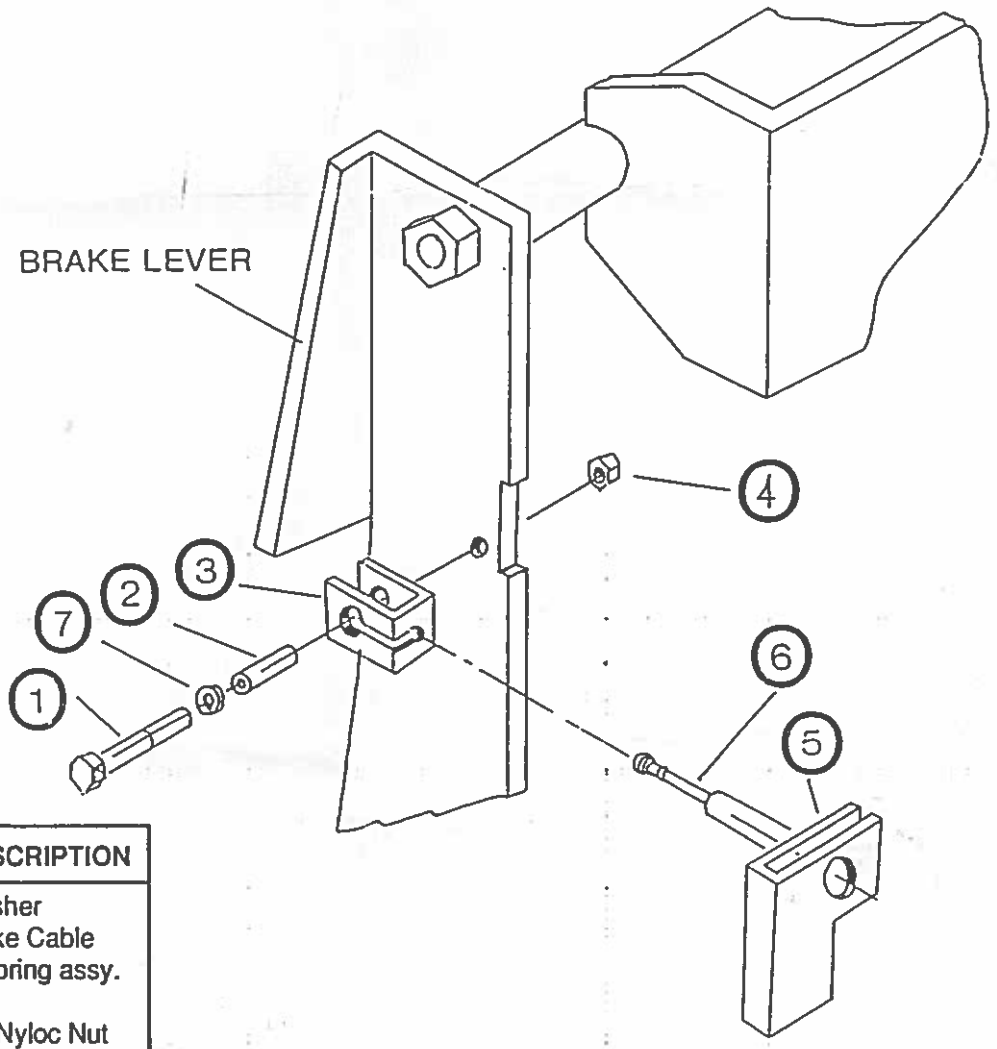
Fit washer (Item 7) to bolt, (Item 1).

Fit clevis to foot brake lever by fitting bolt (Item 1) through spacer and hole in foot brake lever.

Secure in place using nyloc nut (Item 4).

Use long nose pliers to position nut whilst turning bolt. Tighten bolt and nut using two spanners.

Re-adjust foot brake.



REF.	PART Nº	DESCRIPTION
7	L18303	Washer
6	L36935	Brake Cable & Spring assy.
5	L34488	Clip
4	L11220	M5 Nyloc Nut
3	L34489	Clevis
2	L34490	Spacer
1	L34491	M5 Bolt

L24471 (Mod.66/32)