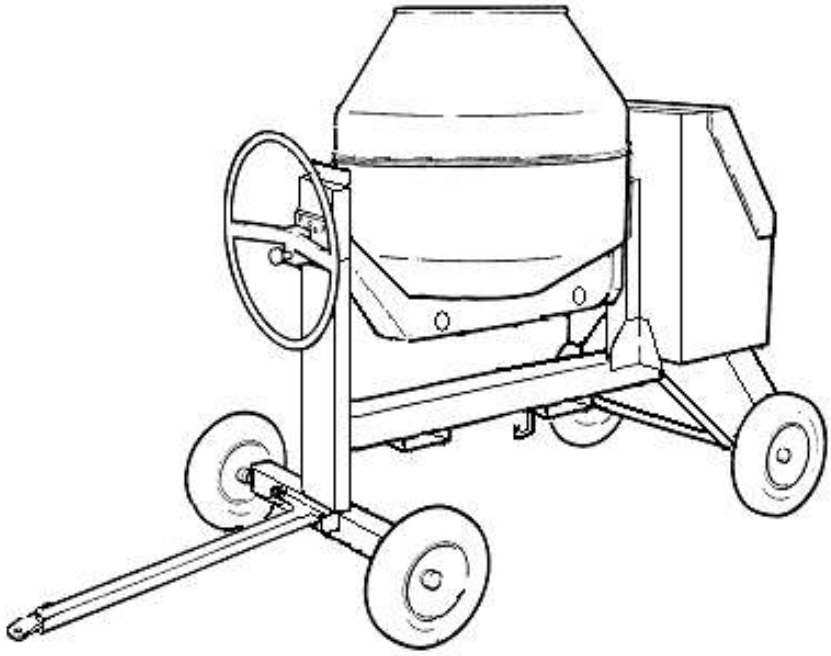
WINGET

WORKSHOP MANUAL
200T
MIXER



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WORKSHOP MANUAL

Winget Hand Fed Mixers

Models: 200T

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SECTION 1
INTRODUCTION

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Introduction

It is assumed that Personnel involved in either the Assembly or repair of Winget Mixers will be familiar with the product, either through the operation of, or previous repair and maintenance work. It is not intended to be used by Personnel who are neither familiar with the product or mechanically inexperienced.

It is also assumed that personnel are aware of the Health and Safety Regulations, which should be applied to all working practices, but the following should act as a reminder.

Ensure all work tools are in good condition.

Always wear Safety Spectacles when using soft or hard faced hammers, chisels or when using air tools. Wear safety spectacles or goggles when cleaning hardened concrete or mortar off components.

Do not misuse Air Lines and be aware of the damage compressed air can cause if misused.

Always make sure lifting equipment is in good condition and the Safe Working Loads exceed the weights of the components to be lifted.

Oils, fuels, silicone sealer and open gear lubricants can cause skin diseases if allowed to contaminate the skin. Always apply barrier creams, wear suitable protective clothing or when contamination is unavoidable clean the area with soap and water as soon as possible. Do not use thinners or other solvents to clean skin.

Health and Safety is a matter of common sense. If common sense is applied correctly Health and Safety can be improved upon and the risk of accidents reduced.

L/H and R/H views are taken when standing directly behind and facing the engine housing.

Whilst every effort is made to ensure the contents of this manual are accurate, Winget Limited accept no responsibility for errors or omissions and reserve the right to alter specification without prior notification and certain sections may then no longer apply.

Repair & Maintenance Procedures

The following procedures and instructions should be used in conjunction with the appropriate Parts and Operators Manual. Reference should also be made to the Parts Listings in Section 9 for a guide to the correct sequence for assembling components and sub assemblies.

1) Clean any paint or debris from bores and shaft surfaces. Threaded holes should preferably be cleaned out using the correct sized tap

2) **All sealed for life bearings should be packed with a good quality grease prior to installation.** Carefully remove the seals from each side of the bearing, pack the bearing with grease and refit the seals ensuring they are correctly seated.

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SECTION 2

REPAIR & SERVICE PROCEDURES

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Lifting Points

Lifting points capable of supporting the weight of the mixer are incorporated into the trunnion below the drum.

This lifting points are highlighted with an ISO 'Hook' symbol adjacent to the point and to use them it is necessary to rotate the drum and trunnion through 180^{o} and to lock in position using the locking plunger at the tiltwheel.

Solid Rubber Wheel Replacement.

The rubber wheel assemblies are secured to the axle stub shafts using a flat washer and split pin. To replace a wheel jack up and support the axle adjacent to the stub shaft, bend back the split pin, close and remove, slide off the washer followed by the wheel. Reverse the procedure to replace a wheel not forgetting to lubricate the stub shaft and bore of the wheel with grease or anti-seize compound prior to assembly and to fit a new split pin.

Front Axle Removal.

Using suitable lifting equipment lift and support the mainframe.

The front axle is retained in the front leg of the mainframe via a spirol pin. Before removing the axle it is advisable to reduce the weight by first removing the wheels and drawbar as described above and below. Support the axle and using a suitable drift and hammer knock the spirol pin through the axle pivot, remove the axle support and manoeuvre the axle clear of the front leg. Reverse the procedure to refit not forgetting to coat the axle pivot pin with anti-seize compound and fit new split pins to the wheels.

Lower the mainframe and allow to stand back on the wheels, remove the lifting equipment.

Rear Axle

The Rear axle is a welded component of the mainframe and cannot be removed.

Drawbar-Standard

The standard drawbar is attached to the front axle via two split pins and flat washers to remove simply bend back the and close the split pins and remove. Slide off the flat washers and lift the drawbar clear. Reverse the procedure to refit, not forgetting to fit new split pins.

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Parking Brake Removal/Replacement

The brake lever is attached to a bracket located on the LH side of the rear axle below the engine housing. Consisting of a carrier bracket, pivot bracket assembly and brake lever assembly with locking spring bolt. The lever assembly is retained to the pivot via a spring circlip, the spring bolt is a welded component of the lever assembly but can be purchased as a separate item via Winget Parts.

Adjustment is provided via slots in the rear axle through which it is possible to move the whole pivot/brake lever away from or closer to the rubber tyre.

The pivot assembly is secured to the carrier bracket by two M10 setscrews.

Removing the spring circlip simply allows the brake lever to be separated from the pivot.

Drum Removal

Attach suitable lifting equipment through both of the drum blades to lift the drum squarely. Knock back the tabs on the tabwasher securing the drum shaft setscrews below the trunnion. Remove the setscrews and washers securing the shaft and flange.

With these removed the only element holding the drum in the trunnion blocks may be a build up of corrosion between the shaft and blocks, it may be necessary to soak the area with penetrating oil to aid drum removal.

With the drum mouth upright lift the drum assembly clear of the trunnion. It may be necessary to rock the trunnion via the tiltwheel to free the drum shaft from the trunnion. Take care as the drum shaft may suddenly release and come free allowing the drum to move without warning.

In exceptional circumstances it may be necessary to use a Two-Leg Puller/Pusher Tool to assist in pushing the Drum Shaft through the Trunnion. When using such tools follow the manufacturers instructions and take care as the drum shaft may suddenly release allowing the drum to move without warning.

Replacement of Drum Shaft, Bevel Gear and Bearings

Remove the drum as described previously and turn upside down so that the assembly stands on the open mouth of the drum. Before removing the bevel gear from the drum base use suitably sized circlip pliers and remove the large circlip retaining the lower shaft bearing into the gear.

Remove the setscrews and spring washers securing the bevel gear and shaft assembly to the drum base, use two of the setscrews as jacking screws utilising the threaded holes in the bevel gear and jack the assembly out of the base.

With the assistance of suitable lifting equipment lift the assembly onto a suitable supporting surface and remove the small circlip from the end of the shaft retaining the upper bearing. Using a suitable drift or bearing puller remove the bearing.

Using a soft faced hammer or mallet knock the shaft back through the bevel gear. Support the shaft in a suitable soft jawed vice and again using a suitable drift or bearing puller remove the lower larger diameter bearing from the shaft. Clean all the components.

Before fitting new bearings carefully remove the seals from the bearings and pack the bearings with good quality grease, refit the seals, do not completely fill the bearings with grease leave some room for expansion as the grease warms up in service.

Fit the new bearings to the shaft and retain the upper smaller bearing using a new circlip. Clean out the drum centre shaft housing and smear a little anti-seize compound round the circumference of the upper bearing seat within the housing.

Place the bevel gear on the drum base and loosely retain with the setscrews and washers, apply threadlock to the screw threads before inserting, smear a little anti-seize compound round the circumference of the lower bearing seat in the bevel gear.

Lower the shaft through the bevel gear and using a suitable mallet or soft faced hammer knock the shaft fully home and fit the large retaining circlip leaving the retaining setscrews finger tight for the time being.

Check the gap between the bevel gear face and drum base (due to manufacturing tolerances) pack any gap between the two in 6/8 positions around the circumference of the bevel gear using the 2.0, 1.00 or 0.5mm shims or a combination of the three.

Tighten the retaining screws. Note:- Tighten the bevel gear retaining setscrews in a diagonal pattern to avoid stressing the casting as it is tightened down, check the drum shaft turns freely. The shaft may need a sharp tap with a soft faced mallet just to seat the bearings. Seal around the circumference of the bevel gear using a suitable silicone free sealer

Coat the teeth of bevel gear casting with a suitable Open Gear Lubricant.

Drum Cone Replacement.

Clean hardened concrete or mortar from around the drum clip and the bolts securing the drum blades. Remove the bolts securing the blades to the drum cone and slacken the bolts through the base. Due to the corrosive action of concrete and mortar it may be necessary to cut through the old bolts using oxy-acetylene equipment. Be aware that hot concrete can “explode” violently spitting concrete - wear suitable eye protection and protective clothing.

Cut through the drum clip and remove. Lift off the drum cone using suitable lifting equipment. If necessary clean out the drum base. Clean any old silicone sealer and hardened concrete from around the drum flange.

Run a generous bead of silicone sealer around the flange of the drum base and inside the new drum clip. Leave the last 150mm of each end of the clip free from sealer.

Using suitable lifting equipment lift the new drum cone in place lining up the holes in the cone with those in the blades. Loosely refit in the bolts, nuts and washers. Fit the new drum clip around the circumference of the two halves of the drum tapping in place over the flanges using a soft faced hammer.

Attach the special drum clip tool placing the pins on the tool into the holes in each end of the clip.

Using a suitable spanner tighten the drum clip to the drum until it is secure. Do not overtighten the clip or the pins in each end of the tool will shear off. Slip the bridge piece over the remaining gap in the drum clip and weld in place. Remove the tool. Fully tighten the drum blades.

Run the mixer, tilting the drum via the tiltwheel making sure that the drum, clip or bridge piece do not foul the mainframe or guards.

Stop the engine, clean any excess silicone off the drum or clip.

Drum Blade Replacement

It is unlikely that drum blades will require replacement separately to the drum cone. However in the event that it should prove necessary, clean any hardened concrete or mortar from around the bolts securing the blades. Remove the bolts and blades. Due to the corrosive action of concrete and mortar it may be necessary to cut through the old bolts using oxy-acetylene equipment. Be aware that hot concrete can “explode” violently spitting concrete - wear suitable eye protection and protective clothing.

Attach the new blades into the drum assembly finger tighten the bolts until all the bolts are in place. Tighten the bolts.

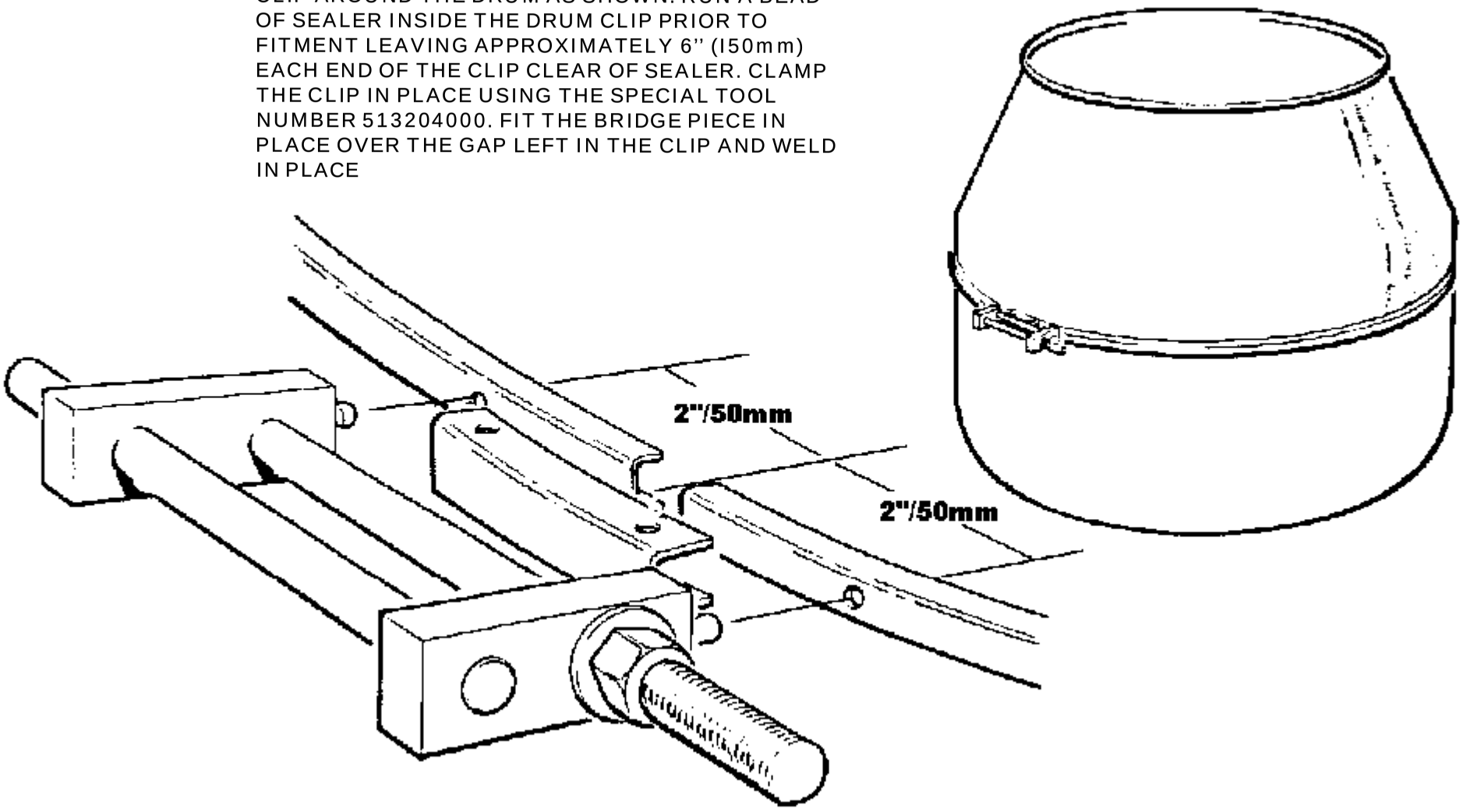
The bolts should go into the drum from the outside and only round or dome headed bolts should be used.

Bevel Gear Guard Replacement

Remove the drum assembly as previously described. Remove the four setscrews, nuts, etc. holding the guard in place. Fit the new guard tighten the setscrews. Replace the drum assembly as described in the following paragraph.

200T DRUM CLIP FIXING

AFTER COATING THE MATING FACES OF THE DRUM BASE AND CONE WITH SILICONE SEALER FIT THE CLIP AROUND THE DRUM AS SHOWN. RUN A BEAD OF SEALER INSIDE THE DRUM CLIP PRIOR TO FITMENT LEAVING APPROXIMATELY 6'' (I50mm) EACH END OF THE CLIP CLEAR OF SEALER. CLAMP THE CLIP IN PLACE USING THE SPECIAL TOOL NUMBER 513204000. FIT THE BRIDGE PIECE IN PLACE OVER THE GAP LEFT IN THE CLIP AND WELD IN PLACE



Refitting the Drum Assembly

Using suitable lifting equipment lift the drum assembly, check the drum shaft is clean and referring to the Drum Adjustment illustration coat the drum shaft **(J)** and the support blocks in the trunnion with anti-seize compound at **(A)**.

Turn the drum shaft so the threaded holes in the base of the shaft are at 90 degrees to those in the lower of the two trunnion support blocks.

Position the drum over the trunnion and lower into place making sure the bevel gear and pinion are fully in mesh and the drum is fully seated down.

Apply anti-seize compound to the drum shaft setscrews and secure the flange to the drum shaft not forgetting the tabwasher. Using the flange turn the drum shaft until the remaining holes in the flange align with the holes in the base block.

Refer to the Drum Adjustment illustration and check the number of flat washers required to fill the gap **(G)** between the flange and base block. Remove one washer from each side. Apply anti-seize compound to the setscrews **(H)** and pass the setscrews through the flange and flat washers, fully tighten the setscrews into the trunnion.

Check for free play between the drum bevel gear and bevel pinion **(C)** by gently rocking the drum (approximately 3mm is acceptable). The backlash can be fine tuned using a combination of the varying thickness of adjusting washers and shims. The drum should rotate quietly, smoothly and with no vibration or undue noise.

Remove the lifting equipment.

Tilting Handwheel and Locking Plunger

The tilting wheel is secured to the tilting pinion via a steel pin and an M10 grubscrew.

With the drum in the vertical position knock out the steel pin, slacken the grubscrew and remove the tilting wheel.

The locking plunger is held in place in the tilting wheel by a second smaller spiral pin. Knock out this pin and remove the locking plunger and spring.

Re-assemble in the reverse order coating the locking plunger and pinion shaft with copperslip. Lubricate the felt seal behind the tilting wheel with oil.

Tilting Bracket

With the drum in the vertical position, place temporary supports or a suitable jack between the mainframe and trunnion to take the weight and support the trunnion

when the tilting bracket is removed.

Remove the upper tiling gear guard. Remove the four socket headed capscrews securing the tilting bracket taking care not to drop the retaining bars on the inside of the mainframe front leg. Pull off the tilting bracket assembly. Check the felt seal in the tilting gear replace and/or lubricate as required.

Remove the tilting wheel as previously described. With the tilting wheel removed withdraw the pinion out of the bracket. Check the condition of the bushes and felt seals. Replace and/or lubricate as required. The stub shaft is secured into the tilting bracket via a spiral pin and can be removed simply by knocking out the pin.

Reassemble the tilting bracket in reverse order lubricating bushes and felt seals with engine oil. Coat shafts, pinions and plungers with anti-seize compound.

When refitting the tilting bracket assembly to the mixer, engage and lock the plunger into the middle of the three bushed blind holes.

Locate the stub shaft into the tilting gear and ensuring that the tilting pinion correctly meshes with the tilting gear push the assembly fully home.

Coat the threads on the four capscrews with thread lock, insert through the tilting bracket, mainframe and into the retaining bars which should be held in position until the capscrews are engaged. Tighten the capscrews. Check that with the drum vertical that the drum clip is horizontal. Refit the upper tilting gear guard. Remove the temporary supports.

Tilting Gear and Lower Guard

Remove the tilting bracket as described previously. Undo and remove the four setscrews securing the guard to the mainframe. Undo and remove the four nyloc nuts and flat washers holding the gear to the trunnion. Push the bolts back through the gear, slide the gear forward and lift clear of the mainframe. Lift off the lower guard.

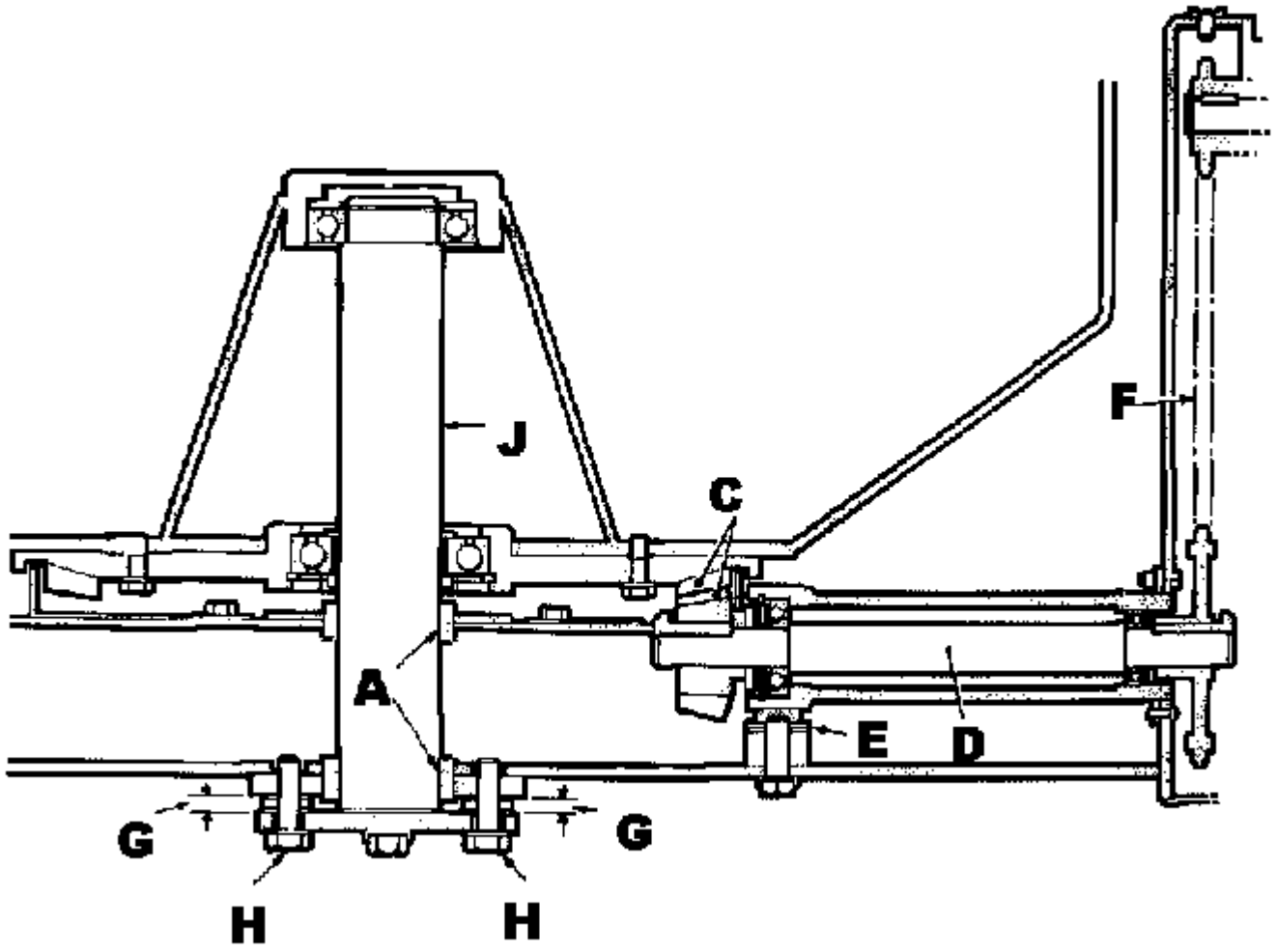
Reassemble in reverse order not forgetting to put the guard behind the gear before assembling the gear. Lubricate the felt seal.

Refit the tilting bracket as previously described.

Countershaft/Bevel Pinion Drive Chain.

Remove the chain guard from the rear of the trunnion. Crank the engine over until the chain split link is visible. Disconnect the split link, hook the new chain loosely onto the
split link and slowly crank the engine and pull the new chain in place round the countershaft sprocket.

200T DRUM ADJUSTMENT



Remove the old chain and link. Loop the new chain round the sprocket in the bevel pinion shaft and fit the new split link.

The open end of the split end should point away from the normal direction of rotation, which is anti-clockwise when looking directly at the chain. Check and adjust the chain tension. (See Bevel Pinion Shaft and Housing). Refit the chain guard.

Bevel Pinion Shaft and Housing

Follow the procedures described earlier and remove the drum, bevel gear guard and disconnect the countershaft bevel pinion drive chain.

Rotate the trunnion until it reaches its highest point and lock in place. Remove the gib head key securing the sprocket to the bevel pinion shaft.

Remove the bevel pinion guard, take care not to lose the spacer, release the tabwashers and remove the setscrews, packers and shims securing the bevel pinion housing.

At this point the bevel pinion housing should be supported by a second pair of hands, strapped or supported in some other manner to prevent it dropping down sharply and causing damage to the casting, it will otherwise only be secured by the loose fitting retaining plate and sprocket.

Remove the nuts and washer off the two bolts retaining the bevel pinion housing adjusting plate. Using a soft faced hammer knock the bevel pinion shaft through the sprocket until it is possible to remove the sprocket. Remove the bolts through the retaining plate and lift the bevel pinion housing out of the trunnion.

Clamp the housing in a soft jawed vice and remove the gib head key retaining the bevel pinion and pull off the bevel pinion.

Remove the circlip from the groove within the housing and using a soft faced hammer knock the shaft and bearings out of the housing. The bearings can now be removed from the shaft using a suitable drift or bearing puller.

Carefully remove the seals from the new bearings and pack the bearings with good quality grease, refit the seals, do not completely fill the bearings with grease leave some room for expansion as the grease warms up in service.

To reassemble secure the bevel pinion shaft into a soft jawed vice. Using the correct size of Bearing tube and a soft faced hammer or suitable drift fit the bearings to the shaft. Note the larger of the two bearings is fitted to the longer shank of the shaft.

Remove the shaft from the vice and using the vice support the bevel pinion housing. Using the correct size of bearing tube or suitable drift and the soft faced hammer

knock the shaft fully into the housing. Fit the retaining circlip into the groove within the housing. Check the shaft turns freely.

Assemble the bevel pinion to the shaft, fitting the gib head key. The pinion is fitted to the longer shank of the shaft. If correctly assembled the threaded holes in the casting will be at the same end. Do not at this stage fit the sprocket to the opposite end of the
bevel pinion assembly, as this will prevent re-assembly of the housing back into the trunnion.

Loosely fit the triangular adjusting plate back into the trunnion, locating the plate on the peg. Fit the two bolts through the adjusting plate from the rear of the trunnion so that when assembled the head of the bolts will be sandwiched between the trunnion rear plate and the bevel pinion shaft drive sprocket.

Work the bevel pinion housing back into the trunnion and through the adjusting plate. As the shaft protrudes through the rear of the trunnion slide on the sprocket until it is fully home.

Refit the setscrews, tabwashers, packer and shim set retaining the bevel pinion housing and finger tighten only.

Fit the gib head key retaining the drive sprocket and refit the drive chain, when connecting the split link the open end of the link should be fitted so that it points away from the normal direction of rotation which is anti-clockwise when looking directly at the chain. Release the trunnion and turn back to its lowest position.

Refer to the Drum Adjustment illustration. The adjusting plate holding the rear of the bevel pinion housing **(D)** is slotted to allow the housing to move up and down enabling correct adjustment of the chain tension **(F)**. Check and adjust the chain tension and tighten the bolts holding the adjusting plate. By adding or subtracting shims **(E)** between the thick packer and the bevel pinion housing ensure the housing is horizontal in the Trunnion and square to the rear plate. Re-check the chain tension and fully tighten the bolts and setscrews securing the bevel pinion housing **(D)**, knock over the tab washers.

Crank the engine ensuring both the countershaft and bevel pinion turn freely. Coat the bevel pinion with an open gear lubricant and fit the pinion guard. Fit the rear chain guard.

Following the procedures described earlier refit the bevel gear guard and spacer and drum assembly.

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Countershaft, Trunnion Journal and Driven Chainwheel/ 'V' Pulley

Although it is recommended that the trunnion is removed completely from the mixer should the countershaft or trunnion journal require attention it is possible to leave the trunnion assembly in place provided it is properly supported.

Remove the engine housing lid, top plate, engine housing chain guard and infill plate. Slacken the two bolts through the bevel pinion housing adjusting plate and the two setscrews, which secure the casting at the pinion, end to release the tension on the countershaft chain.

Disconnect the split links retaining both the engine drive and countershaft chains and remove the chains. On Yanmar electric start diesel mixers the drive is transmitted to the countershaft by means of a 'V' belt in place of the chain.

Do not try to remove the "V" belt from the pulleys without first removing all tension from the belt by slackening the engine adjusting nuts on the long studs on the LH side of the engine.

The upper 'V' belt drive pulley for the Yanmar engine is retained by means of a taper lock bush.

Withdraw the gib head key retaining the driven chainwheel to the countershaft and pull off the chainwheel. On Yanmar powered equipment release the taper lock bush and slide off the pulley assembly and flat washer, remove the parallel key from the countershaft.

Lock the drum in the vertical position using the handwheel locking plunger and using suitable lifting equipment, jacks or chocks secure the trunnion to prevent it moving when the journal is withdrawn.

Remove the two setscrews retaining the journal casting to the mainframe, take the weight off the trunnion and withdraw the journal from the trunnion.

Support the assembly in a soft jawed vice, remove the circlip retaining the countershaft sprocket and pull off the sprocket, remove the feather key.
Remove the circlip in front of the bearing and using a soft faced hammer and suitable drift knock the shaft out of the journal from the opposite end.

Remove the bearings and clean all the components. Carefully remove the seals from the new bearings and pack the bearings with good quality grease, refit the seals, do not completely fill the bearings with grease leave some room for expansion as the grease warms up in service.

Reverse the procedure to re-assemble using a suitable bearing tube or drift to seat the front bearing into the housing, retain with the circlip. Pass the countershaft (end with feather key way and circlip groove) through the housing and into the bearing and knock fully home using a soft faced mallet or hammer. Fit the second bearing over the shaft and knock fully home using a bearing tube or drift until it contacts the shoulder on the shaft.

Fit the feather key, slide on the small sprocket and retain with the circlip. Smear a little grease around the circumference of the trunnion/journal bearing face and in the

bore of the corresponding bearing boss on the trunnion. Slide the journal fully home into the end of the trunnion and retain using the two setscrews. Remove the chocks, lifting equipment or jacks and tighten the setscrews fully.

Coat the end of the countershaft with anti-seize compound and slide on the chainwheel, pushing fully onto the shaft, fit the gib head key. On Yanmar powered equipment re-assemble the taper lock bush arrangement not forgetting the flat washer behind the pulley assembly and to fit the parallel into the shaft.

Refit both the countershaft chain and the engine chain/'V' belt, ensuring that the open end of the chain split links point away from the normal direction of rotation.

Adjust the countershaft chain tension (refer to the 'drum adjustment illustration' and 'bevel pinion housing') and tighten the bevel pinion housing, check the engine drive chain tension or 'V' belt pulley tension as described in the relevant engine section also refer to the parts illustrations at the rear of this manual for further guidance on chain/belt adjustment.

Fit the infill plate, chain guards and plastic plug, top plate and engine-housing lid and closing plate. Release the locking plunger and operate the handwheel ensure the trunnion tilts correctly, start the engine and check the operation of the drum drive, also check for unusual noises.

Trunnion Removal/Replacement

Remove the drum, engine housing lid, top plate, chain guards and infill plate in the engine housing. Remove the engine drive chain/ "V" belt. Undo and remove the two bolts retaining the rear journal. Attach lifting suitable equipment to the trunnion and take the weight, remove the tilting wheel/tilting bracket assembly as described previously. Remove the four setscrews washers etc securing the lower tilt gear guard to the front leg of the mainframe.

Carefully take the weight of the trunnion and lift clear of the mainframe.

Place the trunnion on a suitable surface and remove the bevel pinion housing, rear journal and tilt gear and guard as previously described.

Reverse the procedure to rebuild the trunnion and refit it into the mixer referring to the relevant sections to set up bevel pinion, journal, front bearing, drum etc.

Engine LV1/LT1-910 Hand Start

"CE" marked machines are fitted with 'anti-kick back starting handles' in order to comply with local legislation. For information on the starting handles refer to the engine operators handbook or engine workshop manual.

For details on engine services or overhauls, changing engine oils, filters and bleeding the fuel system refer to the engine operator's handbook or engine workshop manual.

Note, the engine is set to run at 1500 rpm and rotates clockwise at the flywheel end.

Drive Sprocket Removal/Replacement

On the LV1/LT1-910 the Sprocket is keyed onto the engine extension shaft and also held by an M8 grubscrew. Replacement of the sprocket requires removal of the engine.

Remove the engine housing closing plate, engine housing lid, top plate and chain guards. Disconnect the drive chain. Remove the exhaust pipe, remove the bolts securing the engine mounting channels to the engine bed. Using suitable lifting equipment remove the engine taking care not to lose the shims.

Remove the gib head Key and pull off the sprocket. It may help release the key if the sprocket is knocked backwards on the shaft away from the head of the key. Coat the shaft and bore of the sprocket with anti-seize compound and slide on the new sprocket with the boss towards the engine and retain approximately 17mm from the end of the shaft using the gib head key. Do not at this stage fully fit the key incase the sprocket needs to be aligned with the countershaft chain wheel when the engine is refitted.

Lift the engine back into the mainframe and align the mounting channels with the holes in the bed. Insert the bolts but do not fully tighten, refit the shim pack and re-connect the chain. Check the alignment of the sprockets by moving the sprocket on the shaft as necessary before fully inserting the gib head key and tightening the grubscrew.

Check and adjust the chain tension by adding or subtracting engine shims. The tension is correct when the chain deflects approximately 5mm about the centre line of the chain. The chain tension should be checked midway between the two sprockets. When the tension is correct fully tighten all the bolts and recheck the chain tension.

A chain running too tight will cause starting problems and the increased loadings will increase the rate of wear on the chain and sprocket and may also damage the crankshaft bearings. A chain running too slack may run off the sprocket or chainwheel.

Refit the exhaust pipe, retaining clamps and brackets, refit the engine housing lid, chain guards not forgetting the polythene plug, top plate and closing plate.

Engine Yanmar L48-ARE/L48N5SJ1 & Stage 5 Emission Compliant L48V5V Electric Start

There is no difference in build specification between “UKCA” marked machines intended for use in GB or intended for export elsewhere & “CE” marked machines intended for use in the European Union. Mixers intended for the Northern Ireland market should have the “UKNI” and “CE” mark attached. No starting handles are fitted to the Yanmar engines, instead a recoil rope starter is fitted as an ‘emergency’ back up starting device in the event that the electrical starting system should fail.

Note, starting the engine with the recoil in the absence of the battery or start key may damage the charging system.

For details on engine services or overhauls, changing engine oils, filters and bleeding the fuel system refer to the engine operator’s handbook or engine workshop manual.

Note: the Stage 5 Emission Compliant L48V5V engine is fitted with an oil drain tap and braided plastic drain hose in place of the extended flexible rubber hose and drain plug of the L48A & N series engines.

The Fuel Stop Device on the Stage 5 Emission Compliant L48V5V is sealed and should not be tampered with. It is illegal in many Countries with Exhaust Emission Legislation in place to interfere with the fuel settings as this can negate the engines emission compliance.

Note: the ‘high speed’ engine is set to run at 2650 rpm and rotates clockwise at the half speed (1315rpm) PTO shaft extension. These speeds should give an approximate drum speed of 22rpm, do not exceed 23rpm.

To prevent the characteristics of chain drives damaging the Yanmar engine which lacks the heavy flywheel of the slow speed Lister Petter LV1/LT1, the countershaft chainwheel and engine drive chain are replaced by a “V” belt and “V” drive pulleys.

The engine is also mounted differently in that it is bolted to a height adjustable bedplate to allow for belt tensioning.

When replacing a Yanmar engine it will be necessary to modify and adjust the speed control assembly. Refer to the separate illustration and adjust the speed control

moving the spring one hole to reduce the spring tension and also reduce the engine speed.

It will be necessary to open up the slot in the speed control with a small hacksaw or metal cutting shears to enable the correct drum speed to be achieved when the engine is installed and run for the first time.

When the engine is first run slacken the two setscrews securing the engine speed control assembly to the L/H side of the crankcase. Using a laser rev counter or stop watch rotate the engine speed control assembly anti-clockwise and reduce the engine speed to approx. 2650 rpm or to give drum revolutions of approx. 22rpm. (Do not exceed 23 rpm). Retighten the two setscrews.

Battery Removal/Replacement

The 12-volt battery is secured on the L/H side of the Yanmar engine within the engine housing for security. To remove, unbolt and remove the engine housing closing plate. The battery is retained by a non-conductive clamping block, cover and threaded studs, the studs pass through the clamp block screw down into and through the engine mounting plate being retained below the plate with two M6 nuts.

Remove the nuts, unscrew the studs and remove, lift off the cover and clamp block, disconnect the battery leads and slide out the battery. Reverse the procedure to refit the battery. Take care that the battery leads do not short out on either the engine or surrounding metal work, allowing the positive lead to short will blow the 20amp glass fuse in the plastic holder behind the regulator on the R/H side of the engine. There is usually a spare fuse within the holder.

Emergency Stop Cable Removal/Replacement L48N & L48V5V

The later L48N and L48V5V engines have an external stop cable fitted, which terminates at the speed control assembly on the L/H side of the crankcase.

The cable passes through the R/H side of the engine housing, secured by a 9/16” thin nut routing across the top of the engine, secured to the belt guard by a panel type cable tie down to the control assembly.

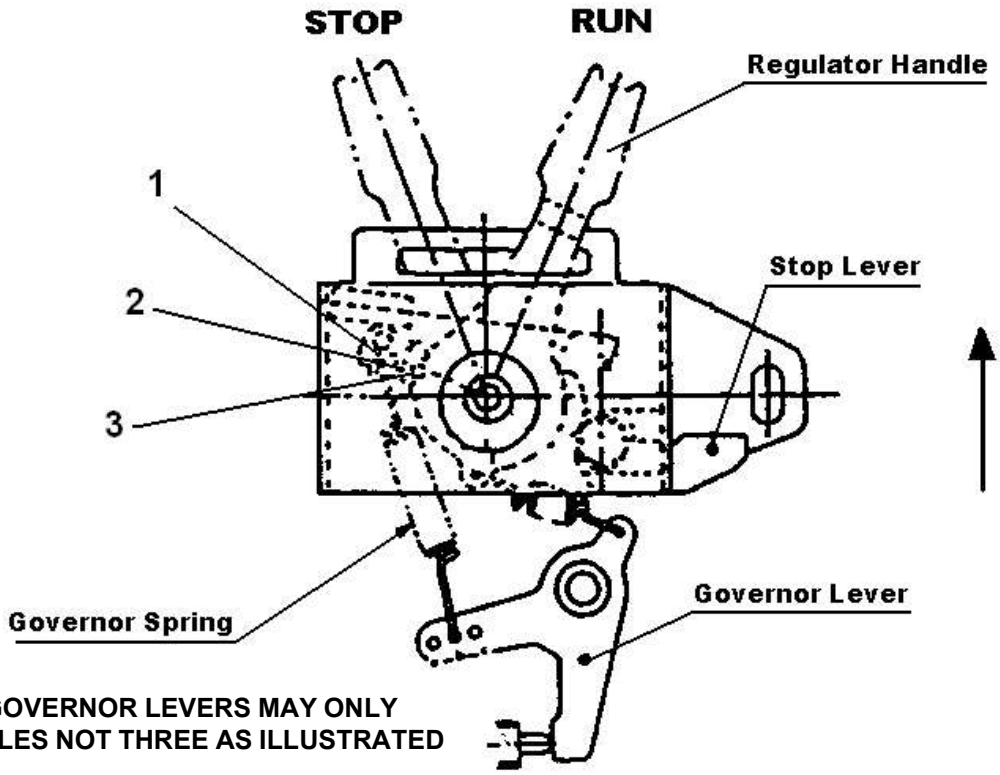
It is necessary to remove the battery to gain access to the cable anchor point on the speed control. Slacken the two M6 locknuts retaining the outer cable to the anchor and release/unclip the inner cable from the control lever. Remove the 9/16” nut at the opposite end of the cable and withdrawn the cable through the engine housing.

Reverse the procedure to replace the cable, ensuring the inner cable is free to move within the outer when correctly installed. Clip the cable back to the belt guard using a suitable cable tie. Refit the battery.

Note: over tightening the 9/16” nut will result in the cable end snapping off.

HANDFED MIXERS YANMAR L48 TYPE D THROTTLE

ENGINE THROTTLE CONTROL USED ON LATER L48 ENGINES FITTED TO 100T, 150T, 175T & 200T HANDFED MIXERS

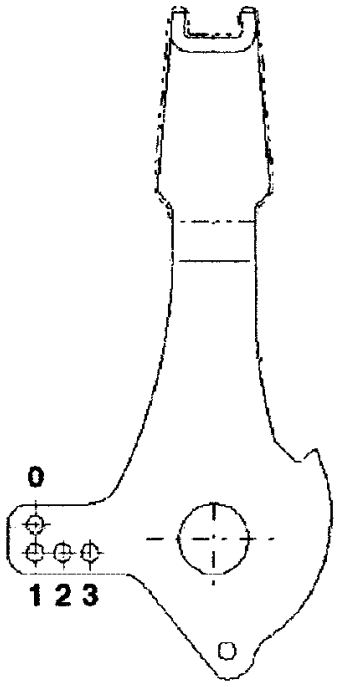


NOTE: SOME GOVERNOR LEVERS MAY ONLY HAVE TWO HOLES NOT THREE AS ILLUSTRATED

TYPE "D" THROTTLE CONTROL

WITH THE REGULATOR HANDLE IN THE "STOP " POSITION REMOVE THE CENTRE SECURING BOLT AND THE LOCKING SETSCREW FROM THE SLOT ADJACENT TO THE STOP LEVER.

CAREFULLY LIFT THE THROTTLE CONTROL ASSEMBLY AWAY FROM THE ENGINE SUFFICIENTLY TO GAIN ACCESS TO THE GOVERNOR SPRING. UNHOOK THE SPRING FROM THE GOVERNOR LEVER AND REMOVE THE ASSEMBLY. SECURE THE ASSEMBLY CAREFULLY IN A VICE AND CUT AWAY THE BOTTOM OF THE SLOT. TAKE CARE NOT TO DAMAGE OR LOSE THE SPRING.



REFIT THE THROTTLE CONTROL ASSEMBLY MOVING THE UPPER HOOK ON THE GOVERNOR SPRING INTO THE No 3 HOLE POSITION IN THE REGULATOR HANDLE. (SEE DRAWING OPPOSITE) LEAVE THE LOWER HOOK IN THE SECOND INNER HOLE IN THE GOVERNOR LEVER.

START THE ENGINE AND USING A SUITABLE REV COUNTER OR THE SECOND HAND OF A WATCH ROTATE THE CONTROL ASSEMBLY ANTICLOCKWISE TO GIVE A DRUM SPEED OF APPROX. 22RPM, (DO NOT EXCEED 23RPM) THE ENGINE SPEED SHOULD NOW BE SET TO APPROX 2650-2700RPM.

TIGHTEN THE TWO RETAINING SETSCREWS

WORKSHOP MANUAL

Winget Hand Fed Mixers

Models: 200T

From 2011

Drive Pulley Removal/Replacement

The drive pulley is keyed onto the engine extension shaft and also held by a small grubscrew through the pulley shank. An M8 setscrew and flat washer is also screwed into the end of the engine extension shaft to retain the pulley. Replacement requires the removal of the engine.

Undo the knot in the recoil rope retaining the handle where it passes through the side of the engine housing, do not release the rope but remove the handle and pass the rope back through into the housing. Tie a loose knot in the rope to prevent it being pulled inside the recoil housing under spring tension.

Alternatively the recoil can be removed from the engine and allowed to hang inside the engine housing. To remove the recoil mark its position on the flywheel housing and remove the three small screws which retain the assembly in place.

Remove the engine housing closing plate, engine housing lid, top plate and chain /belt guards. Remove the 'V' belt and unbolt the electrical panel from the side of the mainframe, disconnect the battery. Remove the bolts securing the engine to the mounting plate and carefully lift the engine out of the housing. Turn the engine

through 180^0 to access the drive pulley and rest the engine back on the mounting plate taking care it does not topple off.

Slacken the grubscrew and remove the setscrew and washer, pull off the pulley, it may be necessary to use a small two legged puller if the pulley has been attached for some time.

Coat the bore of the pulley and the extension shaft with anti-seize compound and slide the pulley onto the shaft fully home up to the shoulder, fit the key, grubscrew, setscrew and washer.

Lift the engine back into the mainframe and secure to the bed. Insert the bolts but do not fully tighten and refit the 'V' belt check the belt alignment and tighten the engine retaining bolts. Do not try and align the belt pulleys by eye alone, use a suitable straight edge placed across the rear of the pulleys to ensure they are correctly aligned.

Check and adjust the belt tension by means of the long threaded adjusting screws, refer to the illustrated parts pages for further information on belt tension. The "V" Belt needs to be fairly tight when correctly adjusted to prevent slippage. Correct

adjustment can be obtained using a weight of approximately 18Kg placed on the engine bed in place of the battery.

When correctly adjusted firm pressure is required to deflect the belt, the tension should be checked midway between the two pulleys. Once the tension is correct fully tighten all fixings and recheck the tension.

A belt running too tight will cause starting problems and the increased loadings will increase the rate of wear on the belt causing it to stretch prematurely and may also damage the shaft bearings. A belt running too slack will slip under load with the result that the drum will cease to revolve.

Reconnect the battery and electric start panel, ensuring the wiring is secured and will not chafe through.

Refit the recoil assembly or rope handle, engine housing lid, chain/belt guards not forgetting the polythene plug, top plate and closing plate.

Note:- do not continually wind the Yanmar engine over on the starter motor if it is difficult to start. This can overheat the starter and lead to premature failure in service. Investigate what might be the cause of the difficult starting. The engine should be cranked over intermittently for no more than 15-20 seconds a time.

WORKSHOP MANUAL

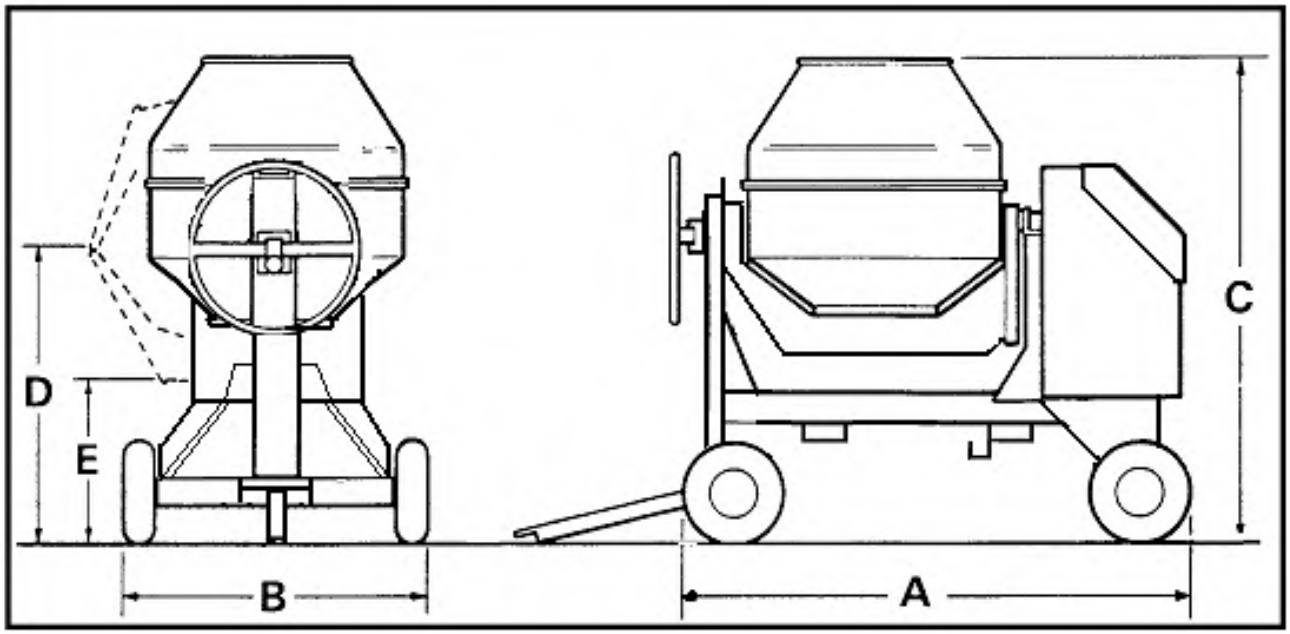
200T

SECTION 3

GENERAL ARRANGEMENT DIMENSIONS

TECHNICAL INFORMATION

Dimensions



A	Overall length	1980 mm
B	Overall width	1110 mm
C	Overall height	1815 mm
D	Loading height	1220 mm
E	Discharge height	510 mm
--	Weight (approx)	585 kg

WORKSHOP MANUAL

200T

SECTION 4
SERVICE SCHEDULES

WORKSHOP MANUAL

Winget Hand Fed Mixers

Models: 200T

From 2011

Service Schedule

The engine will require additional services or adjustments in addition to those listed below. (See the appropriate Engine Operators Handbook or Workshop Manual)

Daily: (8) Hours

Before Work

Lubricate all grease points.

Check fuel and lubricating oil levels.

Check for oil and fuel leaks.

Check/clean/replace air filter element

After Work

Top up fuel tank.

Clean out drum and hopper.

Wash down the mixer.

Weekly: (40 Hours)

The above and the following:

Drive Chain/Belt	Check tension, adjust if necessary
Controls and Pivots	Lubricate all levers, rods, pivots and pins with oil
Tilting Pinion Chain	Check Tension
Battery (if fitted)	Check terminals, clean if necessary, top up
Drum Drive	Inspect and lubricate the chain and teeth of the drum bevel gear and pinion with an open gear lubricant.

WORKSHOP MANUAL

Winget Hand Fed Mixers

Models: 200T

From 2011

Monthly: (100 Hours)

The above and the following:

	Check tightness of nuts, bolts etc.

Every 3 Months: (300 Hours)

The above and the following:

Engine	Change air filter element
	Change lubrication oil and filter
	Change fuel filter
	Check valve clearances

(Also see relevant Engine Handbook/Workshop Manual)

Every 6 Months: (600 Hours)

The above and the following:

Engine	Check the fuel injection timing (Yanmar)
	Clean fuel injectors

Every 12 Months: (1200 Hours or earlier if conditions dictate)

The above and the following:

Engine	Decarbonise if necessary
	Check Fuel Injection pump

WORKSHOP MANUAL

200T

SECTION 5

LUBRICATION DIAGRAMS

LUBRICANTS

MIXERS ARE FACTORY FILLED WITH THE FOLLOWING TOTAL-FINA OILS & GREASES

Engines	Rubia B10W/30 Oil
Drive Chain	Rubia B20W/30 Oil
Bevel Gears	Open Gear Lubricant
Drum Shaft	Anti-seize Compound
Grease Nipples	Multis EP2 Grease
Linkages & Hinges	Rubia B20W/30 Oil
Pivots	Rubia B20W/30 Oil
Bearings (on assembly)	Multis EP2 Grease

Refer to your local oil supplier for a list of the locally available equivalent grades

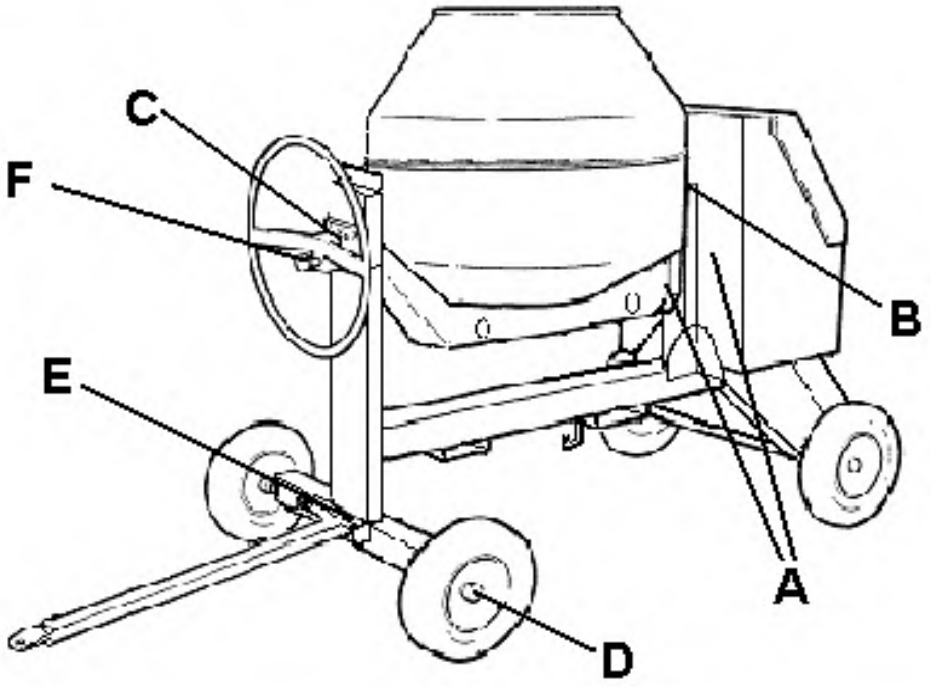
MIXER DRUM SEALANT

Silicone Sealant	Winget Part No : V2000772

LUBRICATION POINTS

Lubrication Points

			Number of points
A	Drive chains	Oil	*2*
B	Trunnion pivots	Grease	*1*
C	Tilt wheel	Oil	*1*
D	Wheels (**Solid rubber**)	Oil	*4*
E	Steering joint	Oil	*1*
F	**Locking plunger**	Oil	*1*



WORKSHOP MANUAL

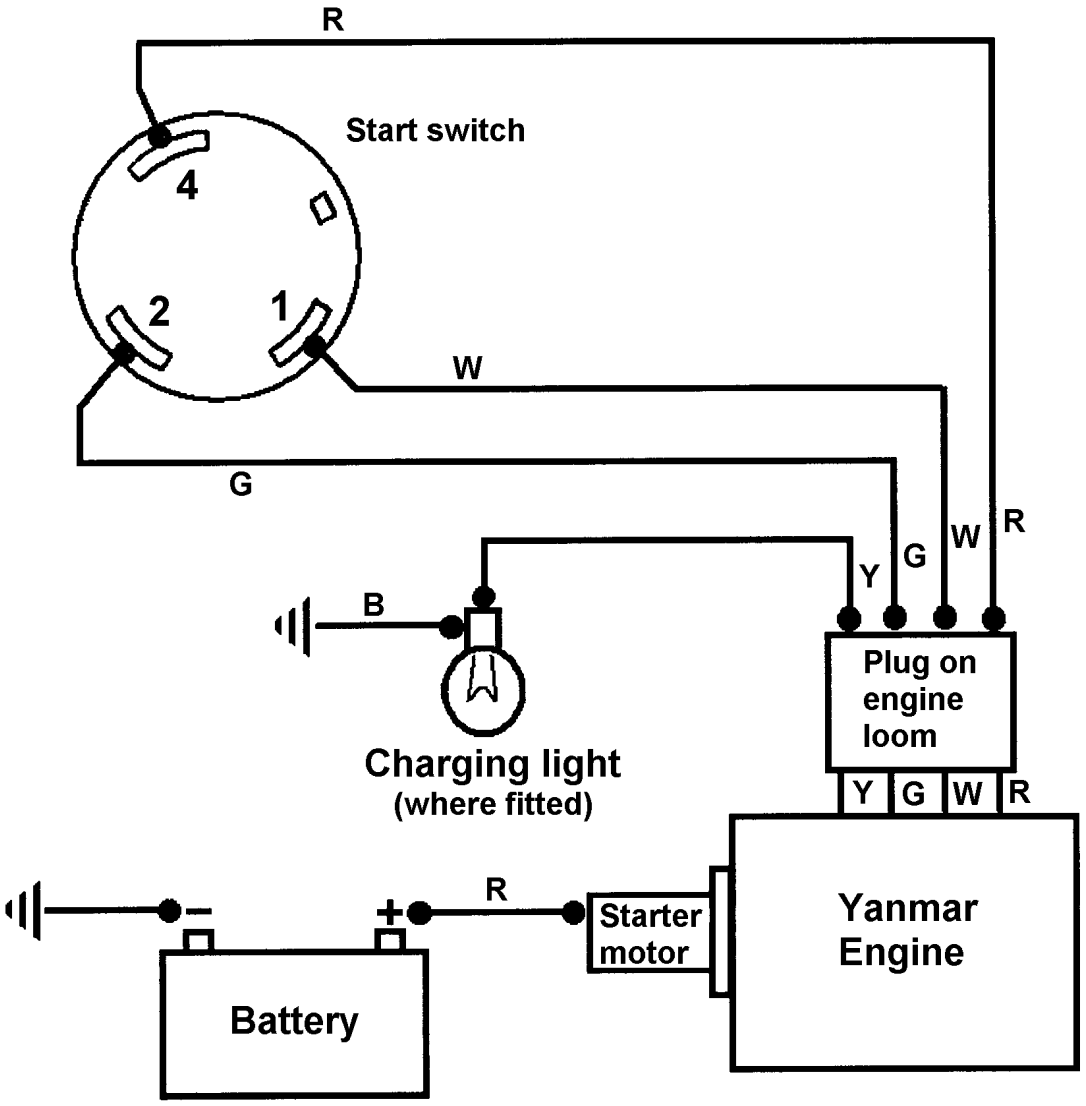
200T

SECTION 6
WIRING DIAGRAMS

TECHNICAL INFORMATION

YANMAR L48 KEY START WIRING CIRCUIT

In adition to the circuit shown below, the engine is fitted with its own loom. (see Yanmar service literature)



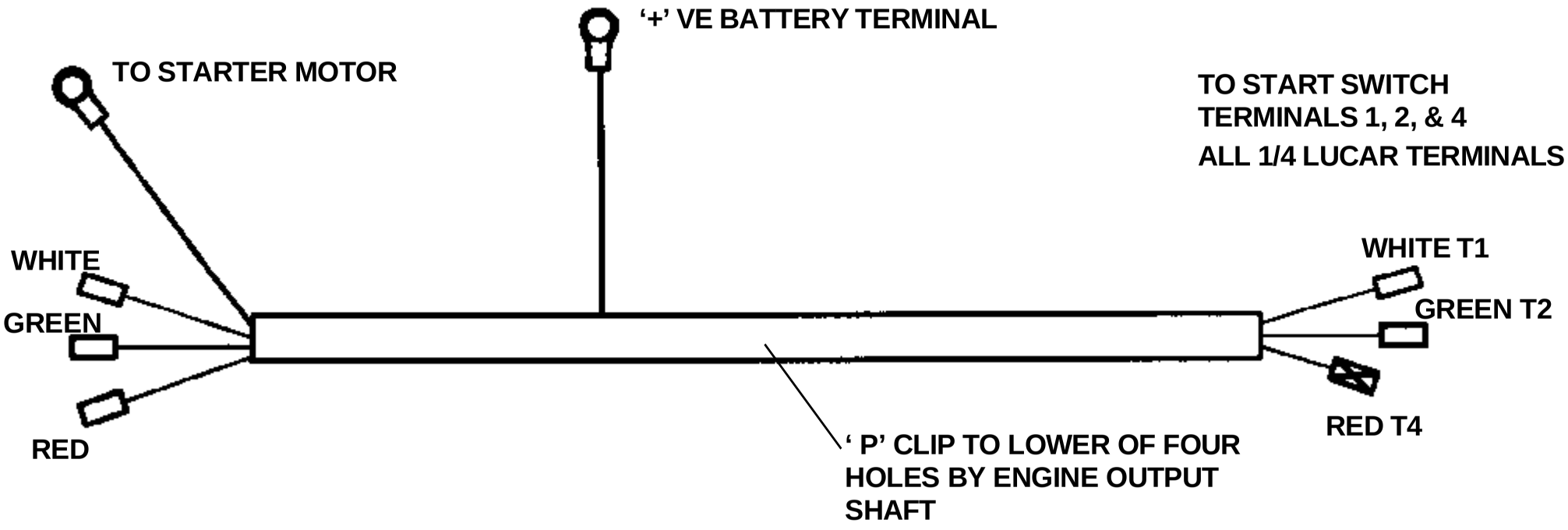
Wire colours

R Red
B Black
G Green
W White
Y Yellow

NOTE: Wire identification

The red wire to the battery is much thicker than the red wire to the start switch.

YANMAR L48 WIRING DIAGRAM



RED	GREEN
YELLOW	WHITE

FOUR WAY PLUG TO REAR OF ENGINE BELOW IN-LINE FUSE ADJACENT TO REGULATOR

PART NUMBER 513362200

WORKSHOP MANUAL

200T

SECTION 7
NOISE LEVELS

SECTION 7

NOISE LEVELS

Noise Tests were carried out in accordance with EC Directive 2000/14/EC & UKSI 2001/1701 on a 4 metre hemisphere with the drum loaded and rotating.

Operators Ear Tests were carried out at a distance 1 metre from the Drum and Handwheel at a height of 1 metre.

Lister Petter LV1/LT1-910 Standard Build 2000/14/EC & UKSI 2001/1701

4 metre	102Lwa
Operators Ear	83Lpa

Yanmar L48A/L48N/L48V5V Standard Build 2000/14/EC & UKSI 2001/1701

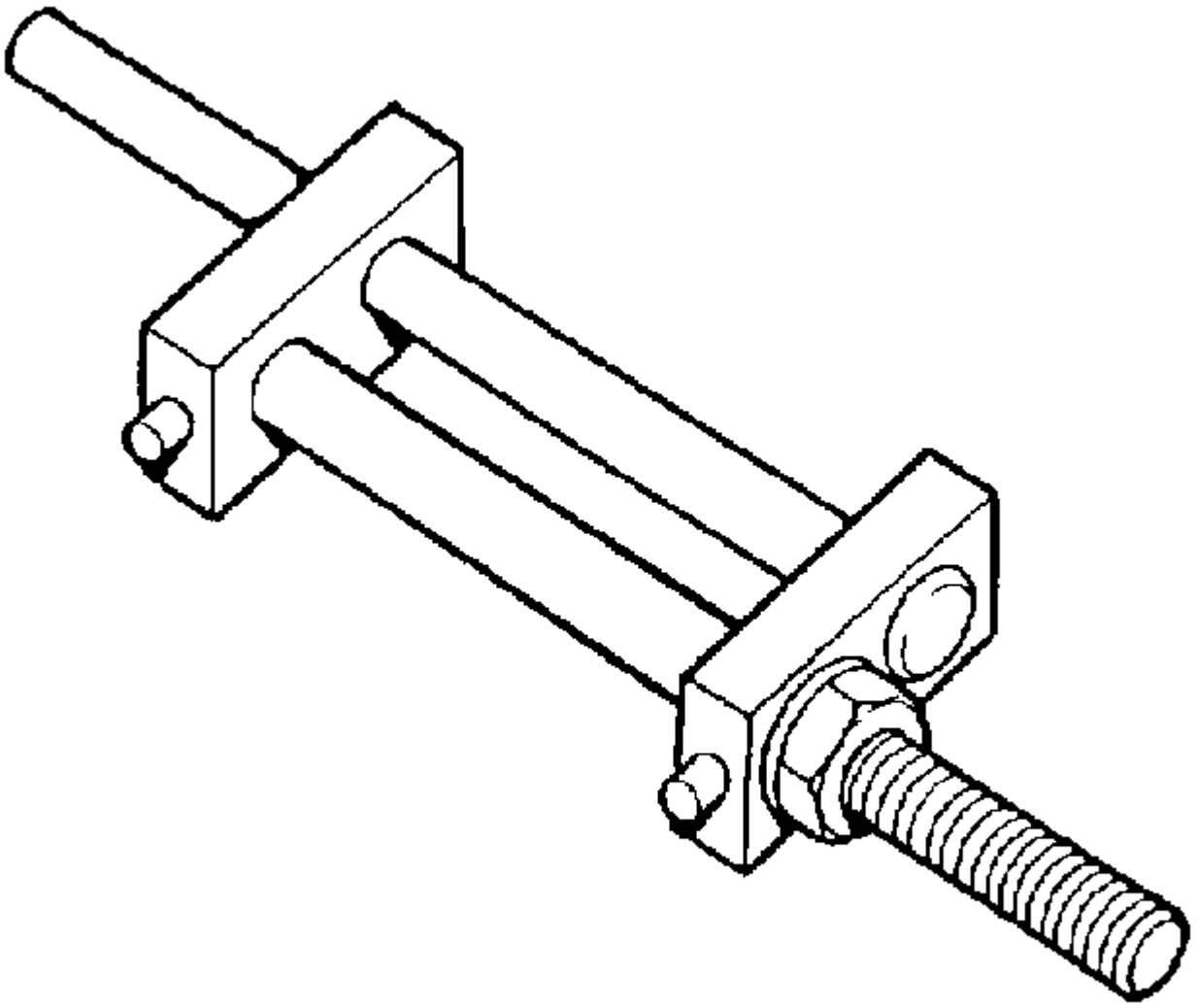
4 metre	101Lwa
Operators Ear	80Lpa

WORKSHOP MANUAL

200T

SECTION 8
SPECIAL TOOLS

200T DRUM CLIP TOOL



513204000 DRUM CLIP TOOL

200T SPECIAL TOOLS

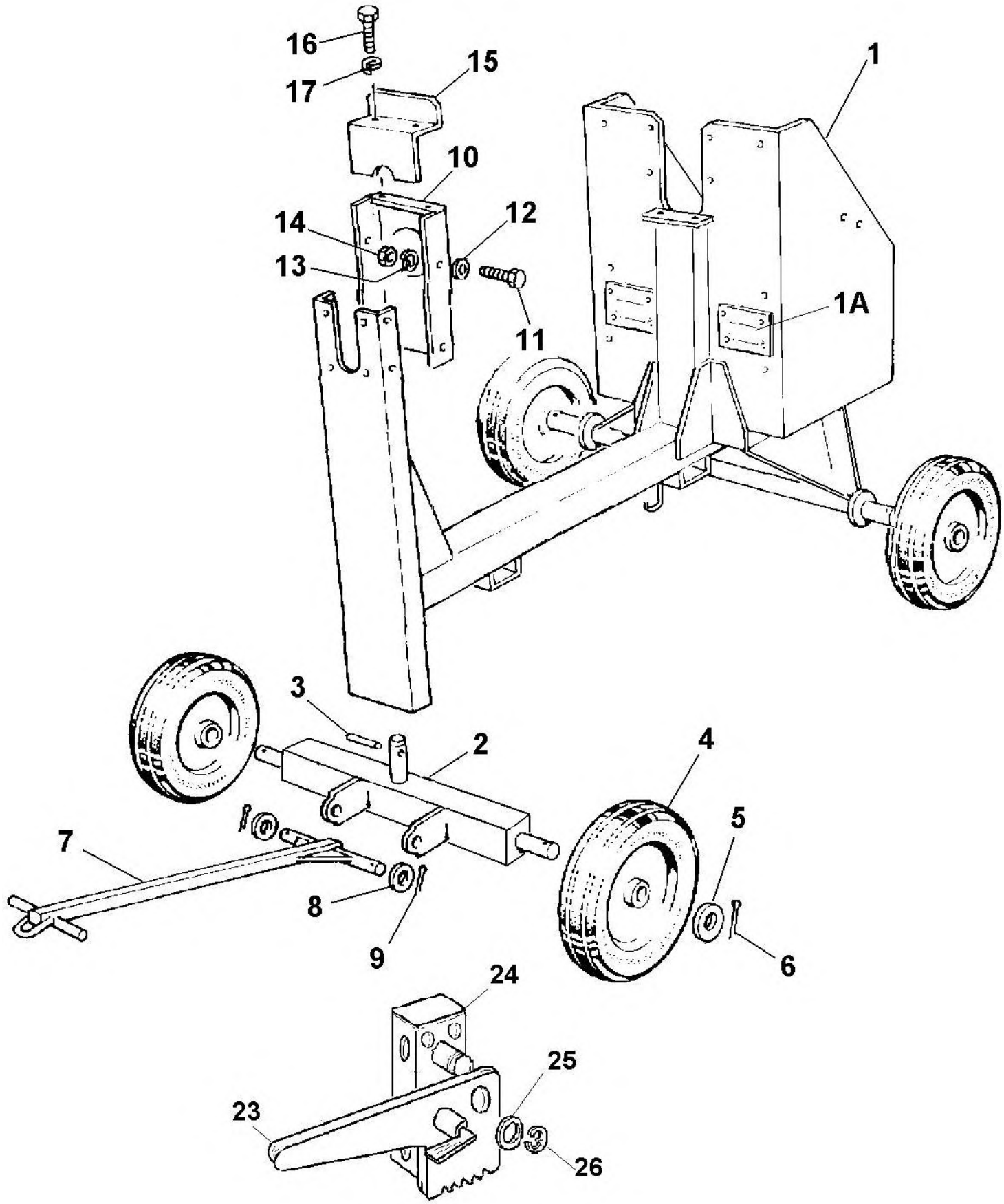
1	513204000	CLAMP-DRUM CLIP	1

WORKSHOP MANUAL

200T

SECTION 9
PARTS LISTING

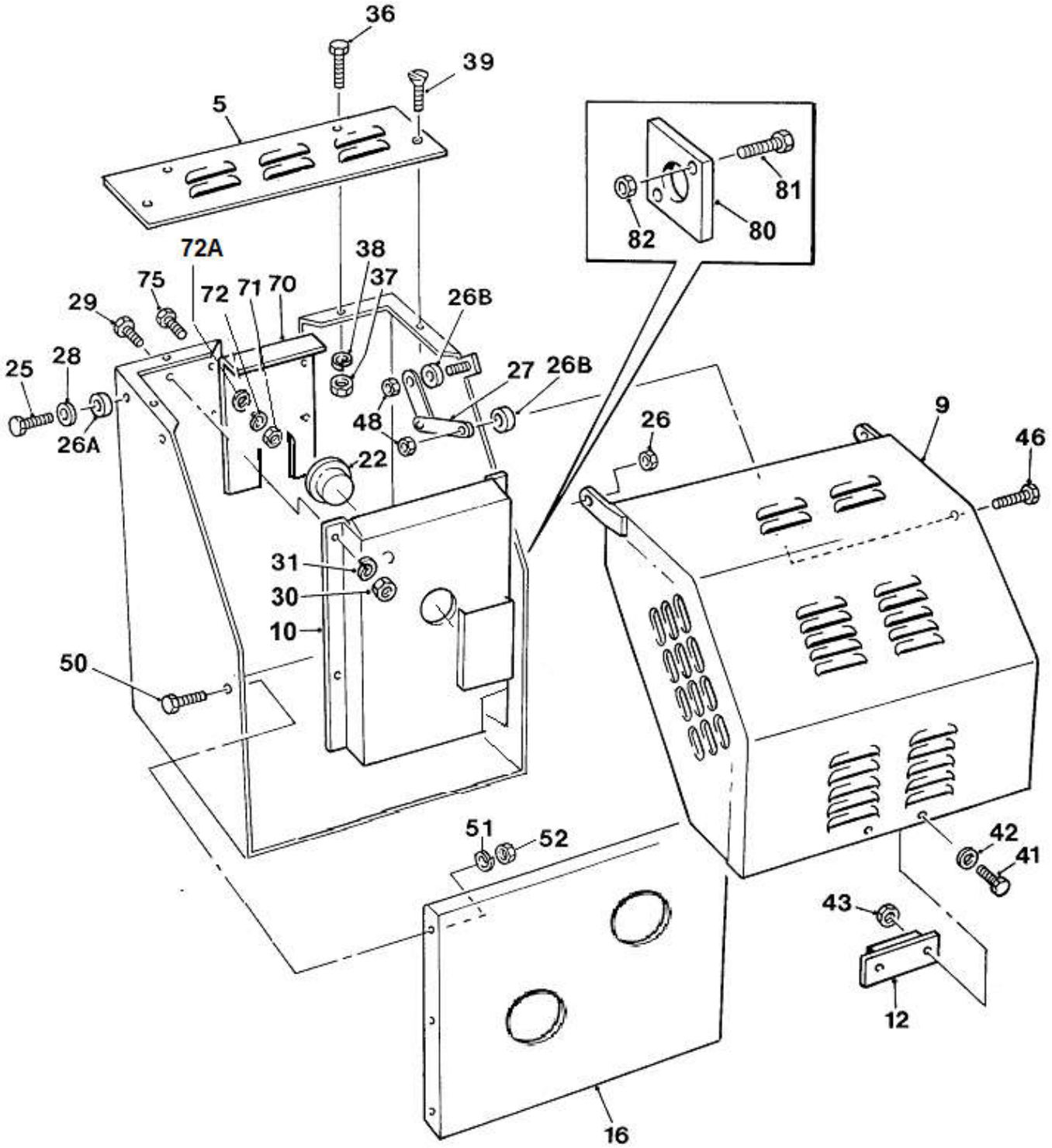
200T MAINFRAME AND FRONT AXLE



200T MAINFRAME & WHEELS

1	513365000	MAINFRAME	1
1A	513371700	PLATE VENT	2
1B	11S02A	SCREW SET	8
1C	17S03	WASHER SPRING	8
2A	513367100	AXLE FRONT	1
3	353830650	SPIROL PIN	1
4	475115000	WHEEL CUSHION TYRE 405MM	4
5	10S09	WASHER FLAT	4
6	44S05G	PIN SPLIT	4
7	513341200	TOW BAR	1
8	10S17	WASHER FLAT	2
9	44S03D	SPLIT PIN	2
10	513198401	GUARD TILT WHEEL LOWER	1
11	11S03B	SCREW SET	4
12	17S04	WASHER SPRING	4
13	267S05	WASHER FLAT	4
14	326S05	NUT, RIVET, KNURLED, M8	4
15	513198402	GUARD TILT WHEEL UPPER	1
16	11S02B	SCREW SET	2
17	17S03	WASHER FLAT	2
18	513371000	PLATE, HANDBRAKE MOUNTING, NOT ILLUSTRATED	1
19	11S04D	SCREW SET	2
20	V2004220	WASHER, FLAT SPECIAL	2
20A	267S06	WASHER FLAT	2
21	17S05	WASHER SPRING	2
22	7S04	NUT	2
23	513370700	LEVER, HANDBRAKE	1
24	513370600	PIVOT BRACKET	1
24A	11S04C	SCREW SET, NOT ILLUSTRATED	2
24B	17S06	WASHER SPRING, NOT ILLUSTRATED	2
24C	267S06	WASHER FLAT, NOT ILLUSTRATED	2
25	10S18	WASHER FLAT	1
26	132412010	CIRCLIP	1

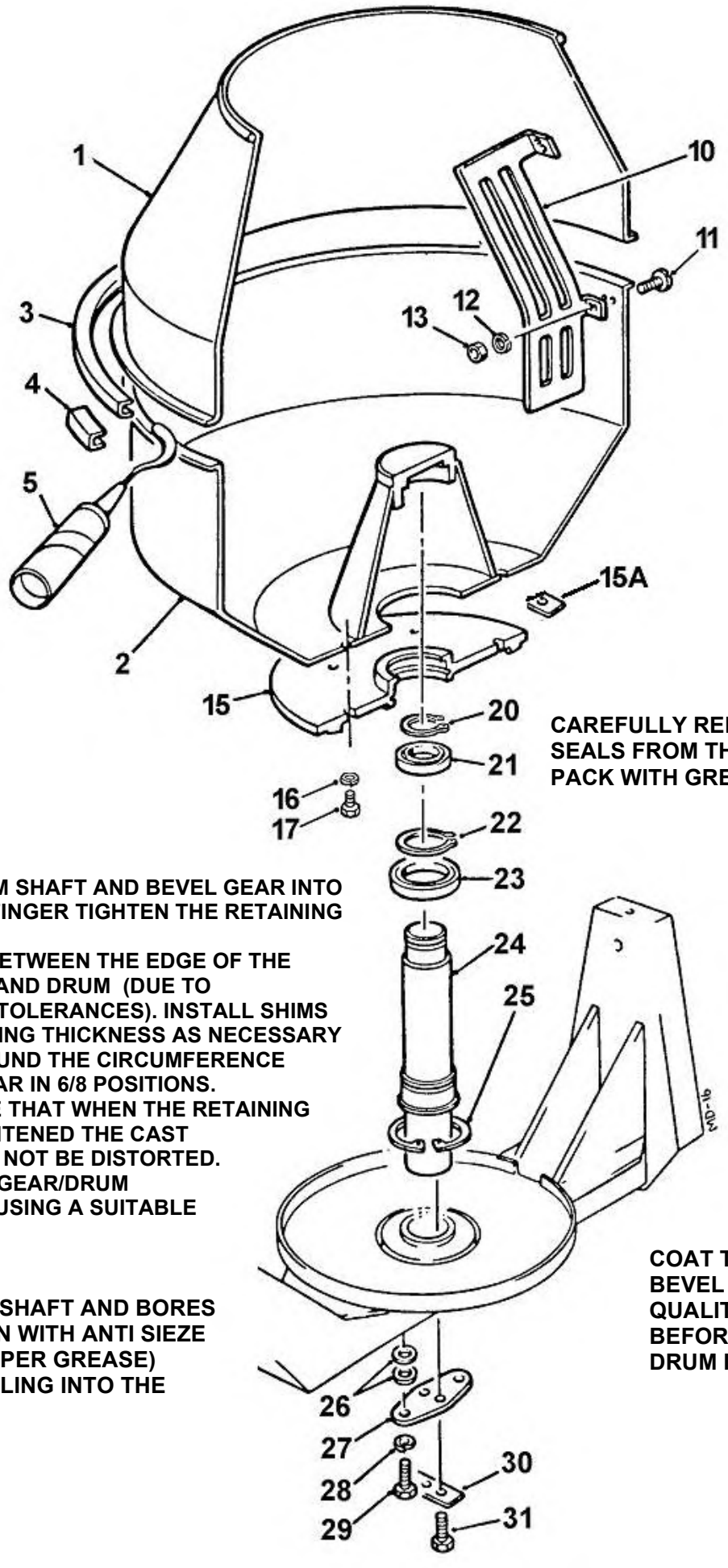
200T SHEETMETAL AND PANELS



200T SHEET METAL AND GUARDS

5	513287000	TOP PLATE ENGINE HOUSING	1
9	513286800	LID ENGINE HOUSING	1
10	513371400	BELT GUARD UPPER L48V5V (CUT AWAY FOR EXHAUST & C	1
12	513205300	STOP RUBBER	1
16	513270300	PLATE CLOSING	1
22	241859000	PLUG POLYTHENE	1
25	11S04F	SCREW SET	2
26	59S03	NUT NYLOC	2
26A	555170000	SPACER	2
26B	513340800	SPACER	2
27	513287200	STAY ENG HOUSING LID	1
28	267S06	WASHER FLAT	2
29	11S04B	SCREW SET	4
30	7S04	NUT	4
31	17S05	WASHER SPRING	4
36	11S02A	SCREW SET	2
37	7S02	NUT	4
38	17S03	WASHER SPRING	4
39	52S02C	SCREW C/SUNK SKT HEAD	2
41	11S02A	SCREW SET	2
42	267S04	WASHER FLAT	2
43	61S02	NUT BINX	2
46	8S03E	BOLT	1
48	61S03	NUT BINX	2
50	11S03A	SCREW SET	6
51	17S04	WASHER SPRING	6
52	7S03	NUT	6
70	513368600	PLATE INFILL	1
71	7S04	NUT	4
72	17S05	WASHER SPRING	4
72A	267S06	WASHER FLAT	4
75	11S04B	SCREW SET	4
80	513362600	PLATE, ROPE GUIDE, YANMAR	1
81	11S02C	SCREW SET	2
82	61S02	NUT BINX	2

200T DRUM ASSEMBLY



CAREFULLY REMOVE THE RUBBER SEALS FROM THE DRUM BEARINGS, PACK WITH GREASE THEN REFIT SEALS.

INSTALL THE DRUM SHAFT AND BEVEL GEAR INTO DRUM BASE AND FINGER TIGHTEN THE RETAINING SCREWS, ITEM 17.
CHECK THE GAP BETWEEN THE EDGE OF THE BEVEL THE GEAR AND DRUM (DUE TO MANUFACTURING TOLERANCES). INSTALL SHIMS ITEM 15A OF VARYING THICKNESS AS NECESSARY EQUISPACED AROUND THE CIRCUMFERENCE OF THE BEVEL GEAR IN 6/8 POSITIONS.
THIS WILL ENSURE THAT WHEN THE RETAINING SCREWS ARE TIGHTENED THE CAST BEVEL GEAR WILL NOT BE DISTORTED.
SEAL ROUND THE GEAR/DRUM CIRCUMFERENCE USING A SUITABLE FLEXIBLE SEALER

COAT THE TEETH OF THE BEVEL GEAR WITH A GOOD QUALITY OPEN GEAR FLUID BEFORE ASSEMBLING THE DRUM INTO THE TRUNNION.

COAT THE DRUM SHAFT AND BORES OF THE TRUNNION WITH ANTI SIEZE COMPOUND (COPPER GREASE) BEFORE ASSEMBLING INTO THE TRUNNION

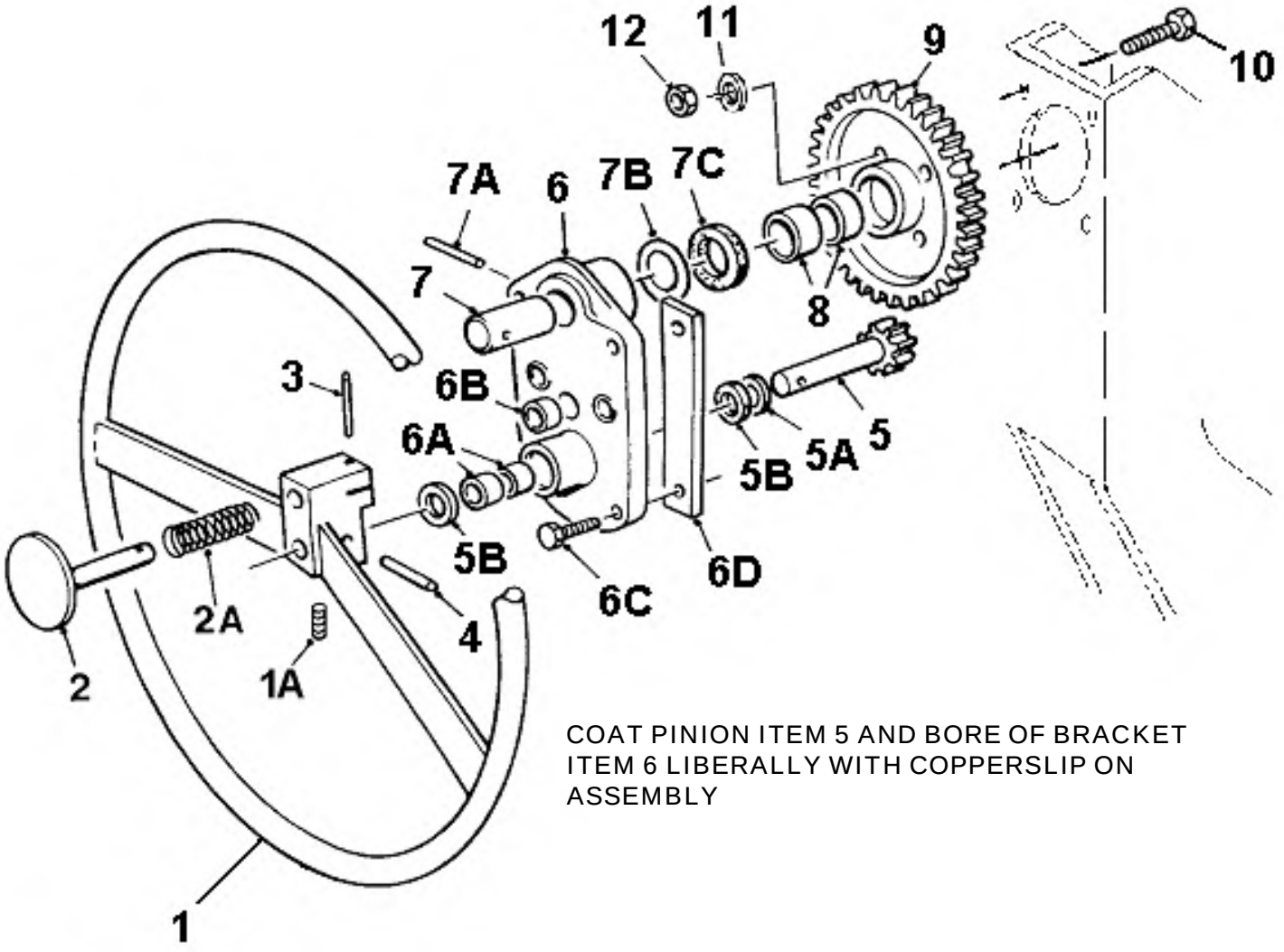
200T DRUM ASSEMBLY

1	513323902	DRUM TOP	1
2	513324000	DRUM BASE	1
3	513324100	CLIP DRUM	1
4	513324200	BRIDGE PIECE	1
5	V2000772	ADHESIVE FLEXIBLE	1
10	513324300	DRUM BLADE	2
11	16S09D	SCREW SLOTTED	8
12	17S05	WASHER SPRING	8
13	7S04	NUT	8
15	513305200	GEAR BEVEL	1
15A	513371203	SHIM, 2 MM THICK	A/R
15B	513371202	SHIM, 1.0MM THICK	A/R
15C	513371201	SHIM, 0.5MM THICK	A/R
16	17S06	WASHER SPRING	6
17	11S05D	SCREW SET	6
20	132760000	CIRCLIP	1
21	88S42D	BEARING	1
22	132775000	CIRCLIP	1
23	88S45D	BEARING	1
24	513310100	SHAFT DRUM	1
25	132313000	CIRCLIP	1
26	267S09	WASHER FLAT, HEAVY GAUGE 3MM THICK	A/R
26A	267S20	WASHER FLAT, LIGHT GAUGE, 2MM THICK	A/R
26B	513375200	SHIM, WASHER 1.0MM THICK	A/R
26C	513375100	SHIM WASHER 0.5MM THICK	A/R
27	513310600	PLATE, RETAINING	1
28	17S08	WASHER SPRING	2
29	11S06H	SCREW SET	2
30	513326300	WASHER LOCKING STOP	1
31	11S06E	SCREW SET	2

200T TILT WHEEL

COAT THE LOCKING PLUNGER ITEM 2 AND THE BORE OF THE HANDWHEEL ITEM 1 LIBERALLY WITH COPPERSLIP ON ASSEMBLY

USE SHIM WASHER ITEM 7B AS REQUIRED SHOULD ANY GAP EXIST BETWEEN ITEM 6 THE TILTING BRACKET AND THE TILTING GEAR ITEM 9WHEN THE TRUNNION AND TILTWHEEL ASSEMBLY ARE ASSEMBLED INTO THE FRAME



COAT PINION ITEM 5 AND BORE OF BRACKET ITEM 6 LIBERALLY WITH COPPERSLIP ON ASSEMBLY

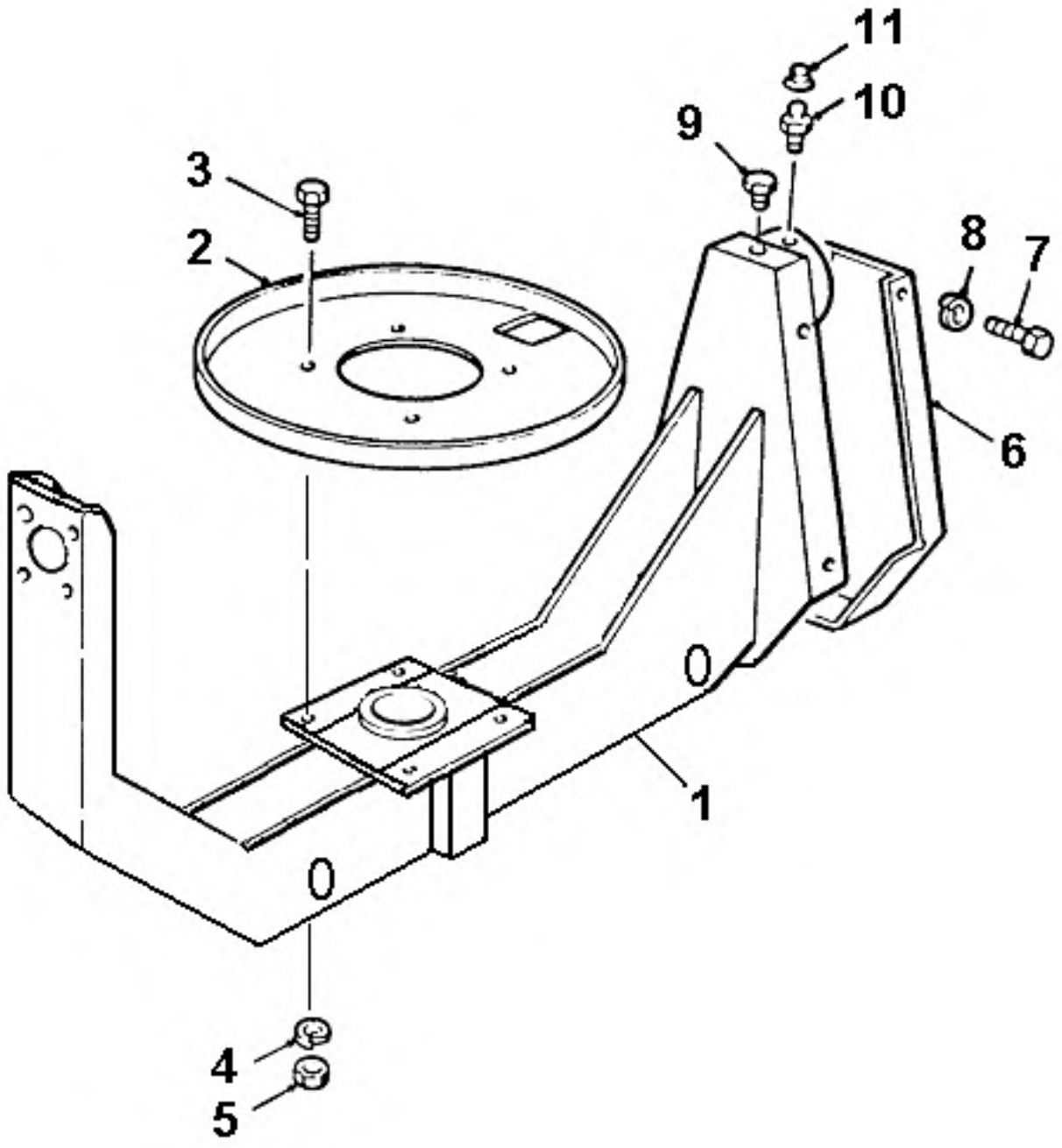
RUN A SUITABLY SIZED DRILL BIT THROUGH THE HANDWHEEL AND INDENT THE SHAFT OF ITEM 5 PINION TO ALLOW THE GRUBSCREW ITEM 1A A GOOD BITE IN THE SHAFT.

DRIVE THE SOLID PIN ITEM 4 THROUGH THE HANDWHEEL AND PINION SHAFT USING A AIR HAMMER AND SUITABLE BIT

200T TILT WHEEL

1	513345400	HANDWHEEL	1
1A	57S06F1	SCREW GRUB M10	1
2	513194400	PLUNGER LOCKING	1
2A	513345300	SPRING	1
3	54S01A	PIN SPIROL	1
4	513374900	PIN GROOVED SOLID	1
5	513345600	PINION TILTING	1
5A	10S18	WASHER FLAT	1
5B	225514220	SEAL FELT	2
6	513149400	BRACKET TILTING	1
6A	112821000	BUSH	2
6B	114625320	BUSH	3
6C	103S04C	SCREW SOCKET CAP	4
6D	513212300	PLATE RETAINING	2
7	513151000	STUB SHAFT	1
7A	55S07Q	PIN SPIROL	1
7B	10S09	WASHER FLAT	A/R
7C	225520280	SEAL FELT	1
8	112820000	BUSH	2
9	513149300	GEAR TILTING	1
10	6S03E	BOLT	4
11	10S03	WASHER FLAT	4
12	107S14	NUT NYLOC	4

200T TRUNNION

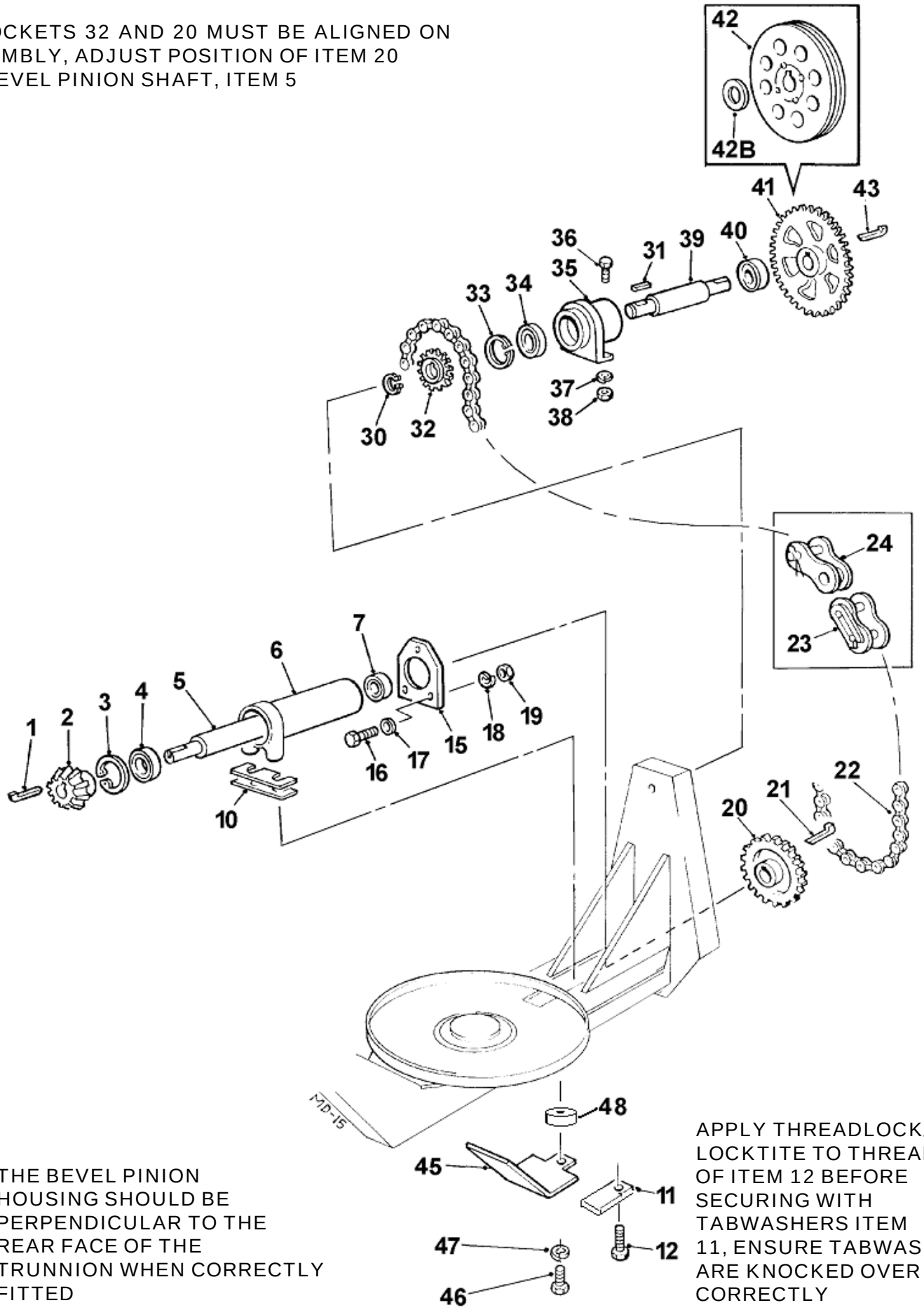


200T TRUNNION

1	513367900	TRUNNION	1
2	513316500	GUARD, DRUM BEVEL GEAR	1
3	11S03B	SCREW SET	4
4	17S04	WASHER SPRING	4
5	7S03	NUT	4
6	513316600	COVER CHAIN REAR	1
7	11S02AA	SCREW SET	4
8	17S03	WASHER SPRING	4
9	315803100	NIPPLE GREASE, FLAT	1
10	131S01	NIPPLE GREASE, STRAIGHT	1
11	176S01	CAP NIPPLE	1

200T DRUM DRIVE

SPROCKETS 32 AND 20 MUST BE ALIGNED ON ASSEMBLY, ADJUST POSITION OF ITEM 20 ON BEVEL PINION SHAFT, ITEM 5



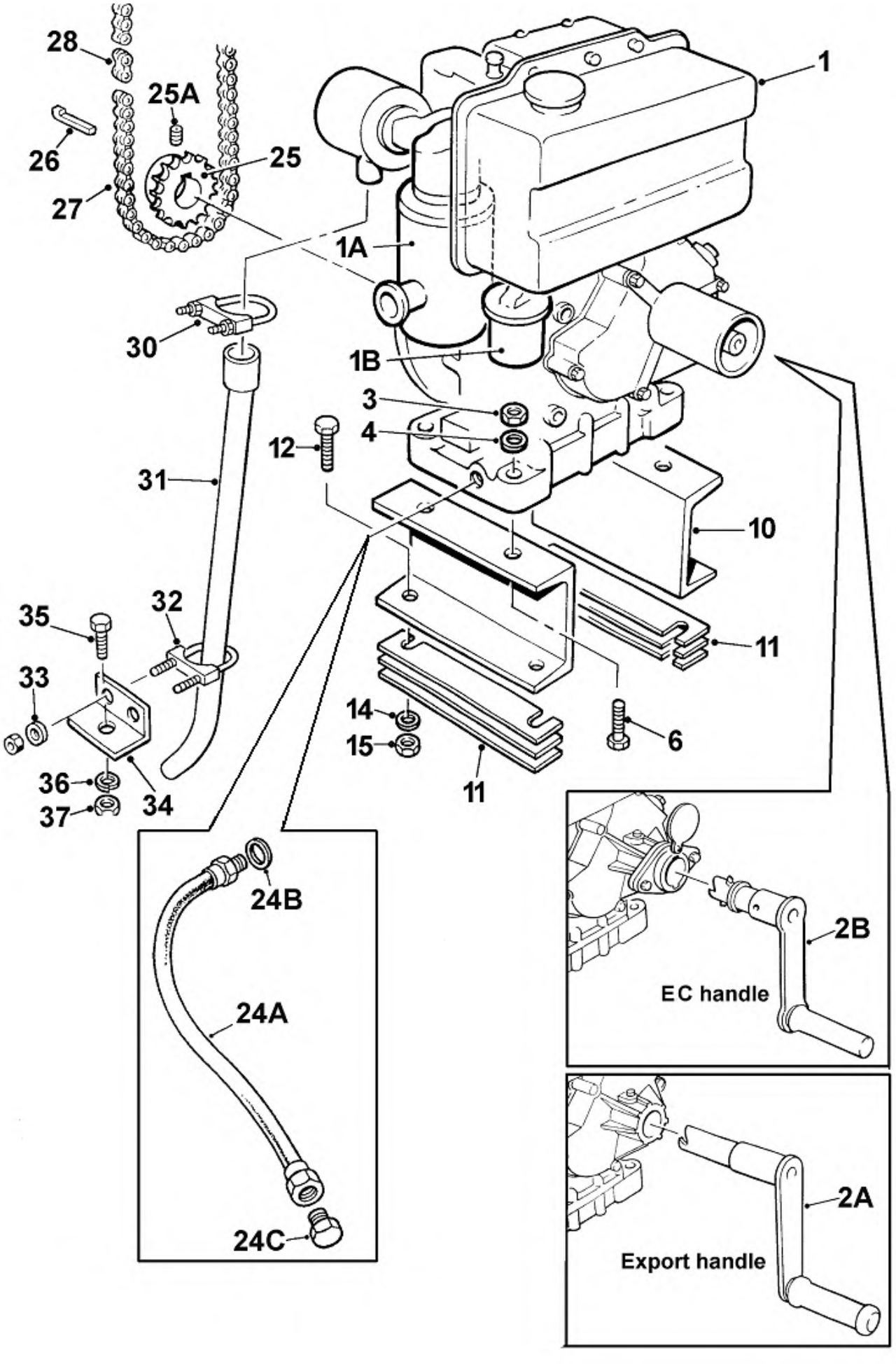
THE BEVEL PINION HOUSING SHOULD BE PERPENDICULAR TO THE REAR FACE OF THE TRUNNION WHEN CORRECTLY FITTED

APPLY THREADLOCK/ LOCKTITE TO THREADS OF ITEM 12 BEFORE SECURING WITH TABWASHERS ITEM 11, ENSURE TABWASHERS ARE KNOCKED OVER CORRECTLY

200T DRUM DRIVE

1	300110845	KEY TAPER GIB HEAD	1
2	513310700	PINION	1
3	132362000	CIRCLIP	1
4	88S05D	BEARING	1
5	513310300	SHAFT	1
6	513305400	HOUSING	1
7	88S15D	BEARING	1
10	513152400	SHIM PACK (SET)	1
11	513211900	TABWASHER	2
12	11S05H	SCREW SET	2
15	513298900	PLATE	1
16	11S04C	SCREW SET	2
17	267S06	WASHER FLAT	2
18	17S05	WASHER SPRING	2
19	7S04	NUT	2
20	513305300	SPROCKET	1
21	300110845	KEY TAPER GIB	1
22	134105070	CHAIN	1
23	134105002	LINK CONNECTING	A/R
24	134105001	LINK HALF	A/R
30	132725000	CIRCLIP	1
31	304708035	KEY FEATHER	1
32	513310500	SPROCKET	1
33	132362000	CIRCLIP	1
34	88S05D	BEARING	1
35	513305500	HOUSING	1
36	11S05F	SCREW SET	2
36A	267S07	WASHER FLAT	2
37	17S06	WASHER SPRING	2
38	7S05	NUT	2
39	513310400	SHAFT COUNTER	1
40	88S15D	BEARING	1
41	513310800	SPROCKET LISTER ENGINE	1
42	371123000	PULLEY C/W BUSH YANMAR ENGINE	1
42B	267S12	WASHER FLAT, THICK, FIT BEHIND ITEM 42	1
		OR ALTERNATIVELY	
42B	267S22	WASHER FLAT, THIN, FIT BEHIND ITEM 42	1
43	300110845	KEY TAPER GIB HEAD LISTER	1
43A	CR329047	KEY PARALLEL USE WITH YANMAR PULLEY	1
45	513211800	GUARD BEVEL PINION	1
46	66S03A	SCREW SET OR SEE ALTERNATIVELY SEE BELOW	1
46	11S04C	SCREW SET M10	1
47	41S05	WASHER SPRING OR ALTERNATIVELY SEE BELOW	1
47	17S05	WASHER SPRING M10	1
48	555170000	SPACER	1

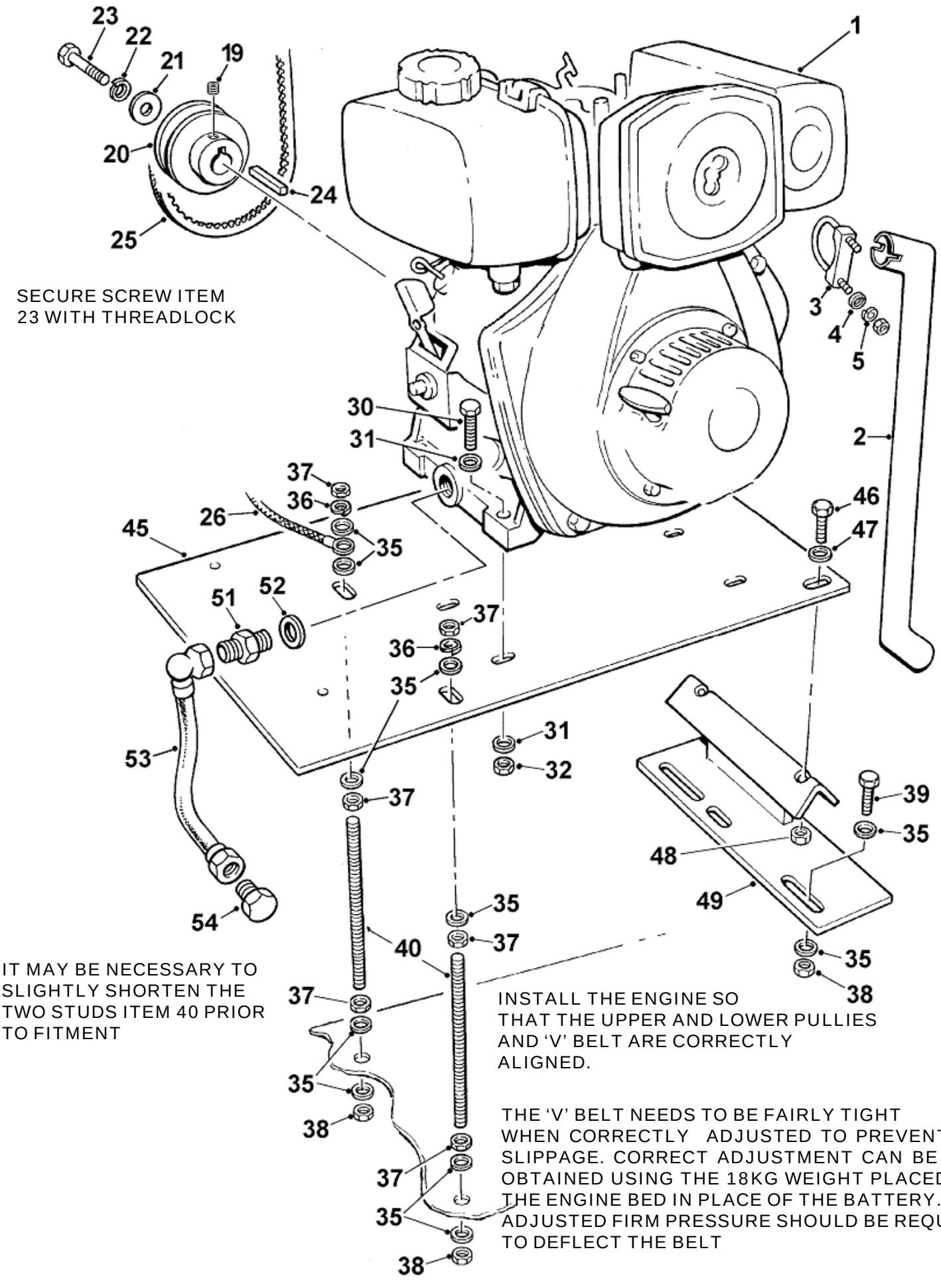
200T LISTER-PETTER LV1 BUILD 910/LT1 BUILD 910



200T LISTER LV1-910/LT1-910

1	354051000	ENGINE LV1-910/LT1-910 EXPORT SPEC NON ANTI KICK	1
1	354054100	ENGINE LV1-910/LT1-910 EC SPEC ANTI KICKBACK	1
3	61S05	NUT BINX	4
4	267S07	WASHER FLAT	4
6	8S05J	BOLT	4
10	513267400	CHANNEL ENGINE MOUNT	2
11	513248400	KIT SHIMS	1
12	8S05E	BOLT	4
14	267S07	WASHER FLAT	4
15	61S05	NUT BINX	4
24A	513362800	OIL DRAIN HOSE	1
24B	100S04	SEAL BONDED	1
24C	127S04	PLUG OIL DRAIN	1
25	513326400	SPROCKET ENGINE DRIVE, SHOWN WRONG WAY ROUND	1
25A	57S05D2	SCREW GRUB	1
26	300204160	KEY GIB HEAD	1
27	134105096	CHAIN ENGINE DRIVE	1
28	134105002	LINK CONNECTING	1
	134105001	LINK HALF (NOT ILLUS)	AR
30	354051005	CLAMP EXHAUST	1
31	513267500	PIPE EXHAUST	1
32	153S01	CLAMP EXHAUST	1
33	267S04	WASHER FLAT	2
34	513266800	BRACKET	1
35	11S05C	SCREW SET	1
36	267S07	WASHER FLAT	2
37	61S05	NUT BINX	1

200T YANMAR L40/L48 ARE-SE/L48N5SJ1 ENGINE



SECURE SCREW ITEM
23 WITH THREADLOCK

IT MAY BE NECESSARY TO SLIGHTLY SHORTEN THE TWO STUDS ITEM 40 PRIOR TO FITMENT

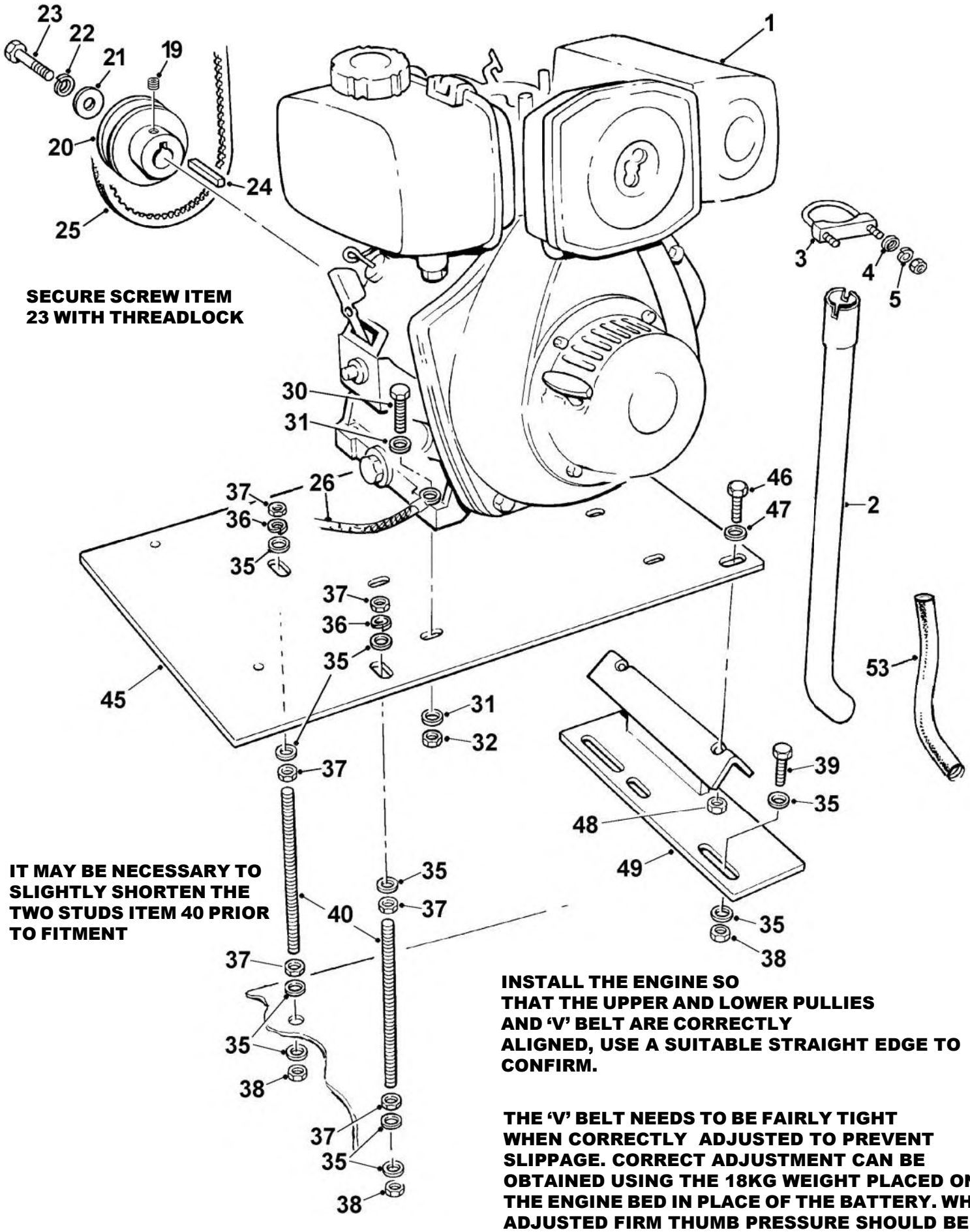
INSTALL THE ENGINE SO THAT THE UPPER AND LOWER PULLIES AND 'V' BELT ARE CORRECTLY ALIGNED.

THE 'V' BELT NEEDS TO BE FAIRLY TIGHT WHEN CORRECTLY ADJUSTED TO PREVENT SLIPPAGE. CORRECT ADJUSTMENT CAN BE OBTAINED USING THE 18KG WEIGHT PLACED ON THE ENGINE BED IN PLACE OF THE BATTERY. WHEN ADJUSTED FIRM PRESSURE SHOULD BE REQUIRED TO DEFLECT THE BELT

200T YANMAR L48 ARE-SE/L48N5SJ1 ENGINE

1	V2005210	ENGINE, YANMAR L48 ARE-SE/L48N5SJ1	1
2	513361600	PIPE EXHAUST	1
3	153S02	CLAMP EXHAUST	1
4	267S04	WASHER FLAT	2
5	17S03	WASHER SPRING	2
19	57S04D2	SCREW GRUB M6	1
20	V2005220	PULLEY	1
21	V2004220	WASHER SPECIAL	1
22	17S04	WASHER SPRING	1
23	8S03D	SCREW SET	1
24	305110550	KEY PARALLEL	1
25	397400700	BELT 'V' SPZ1362 (CAN USE SPZ1375 AS ALTERNATIVE)	1
26	V2005211	CABLE, NEGATIVE EARTH	1
30	8S03D	BOLT	4
31	267S05	WASHER FLAT	8
32	61S03	NUT BINX	4
35	267S07	WASHER FLAT	13
36	17S06	WASHER SPRING	2
37	7S05	NUT	6
38	61S05	NUT BINX	4
39	11S05D	SCREW SET	3
40	513333100	STUD, CUT TO LENGTH	2
45	513361800	PLATE, ENGINE MOUNTING	1
46	8S04D	BOLT	2
47	V2004220	WASHER FLAT	2
48	61S04	NUT BINX	2
49	513358800	SUPPORT BRACKET	1
51	325S04	ADAPTOR 3/8 X M16	1
52	298S05	SEAL BONDED M16	1
53	31S02LL	HOSE HYDRAULIC OIL DRAIN	1
54	127S03	PLUG BLANKING	1

200T YANMAR L48V5V STAGE 5 EMISSION COMPLIANT



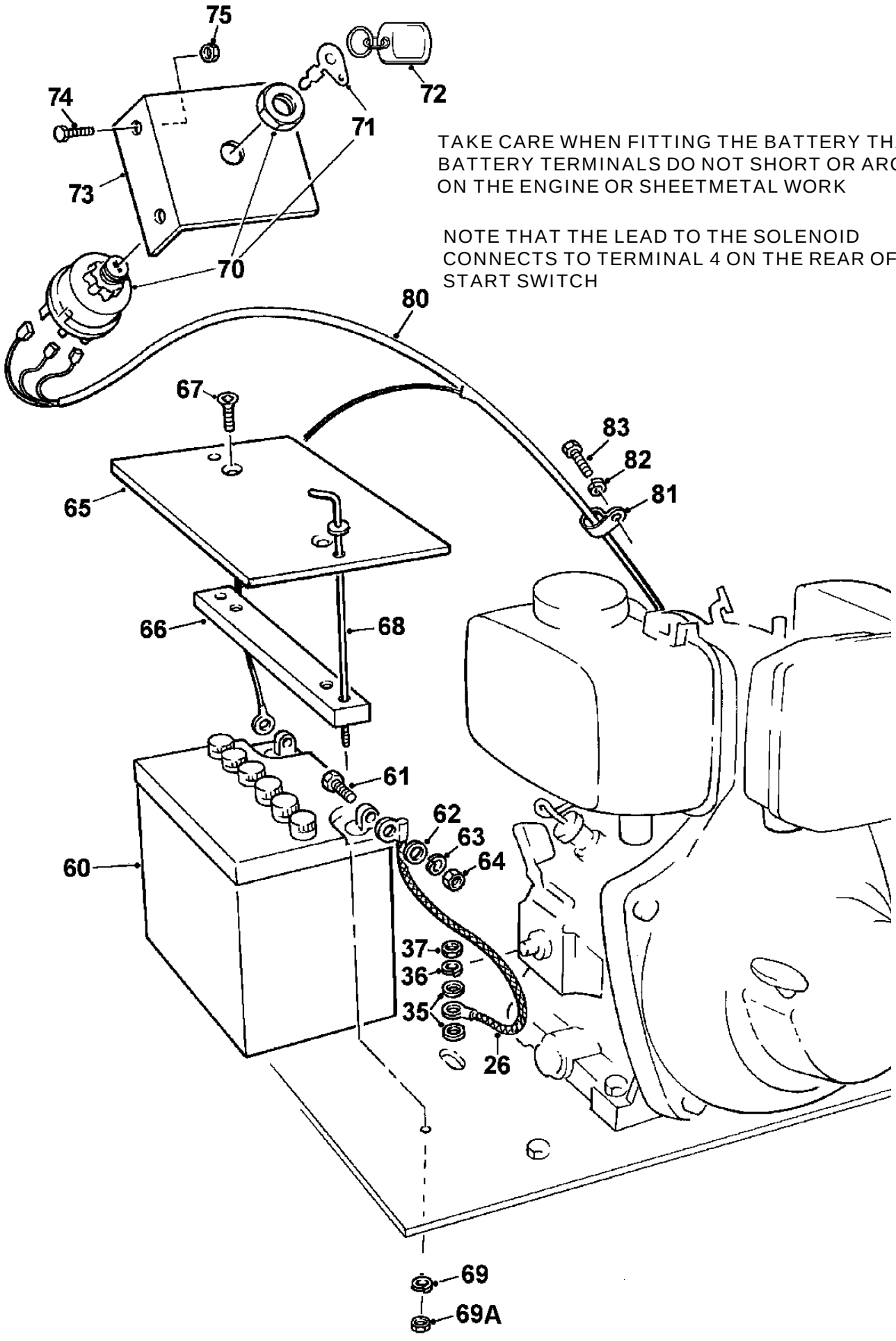
INSTALL THE ENGINE SO THAT THE UPPER AND LOWER PULLIES AND 'V' BELT ARE CORRECTLY ALIGNED, USE A SUITABLE STRAIGHT EDGE TO CONFIRM.

THE 'V' BELT NEEDS TO BE FAIRLY TIGHT WHEN CORRECTLY ADJUSTED TO PREVENT SLIPPAGE. CORRECT ADJUSTMENT CAN BE OBTAINED USING THE 18KG WEIGHT PLACED ON THE ENGINE BED IN PLACE OF THE BATTERY. WHEN ADJUSTED FIRM THUMB PRESSURE SHOULD BE REQUIRED TO DEFLECT THE BELT

200T YANMAR L48V5V S5 EMISSION COMPLIANT ENGINE

1	V2006401	ENGINE, YANMAR L48V5V STAGE 5 EMISSION COMPLIANT	1
2	513371300	PIPE EXHAUST	1
3	153S02	CLAMP EXHAUST	1
4	267S04	WASHER FLAT	2
5	17S03	WASHER SPRING	2
19	57S04D2	SCREW GRUB M6	1
20	V2005220	PULLEY	1
21	V2004220	WASHER SPECIAL	1
22	17S04	WASHER SPRING	1
23	8S03D	SCREW SET	1
24	305110550	KEY PARALLEL	1
25	397400700	BELT 'V' SPZ1362	1
26	V2005211	CABLE, NEGATIVE EARTH	1
30	8S03D	BOLT	4
31	267S05	WASHER FLAT	8
32	61S03	NUT BINX	4
35	267S07	WASHER FLAT	13
36	17S06	WASHER SPRING	2
37	7S05	NUT	6
38	61S05	NUT BINX	4
39	11S05D	SCREW SET	3
40	513333100	STUD	2
45	513361800	PLATE, ENGINE MOUNTING	1
46	8S04D	BOLT	2
47	V2004220	WASHER FLAT	2
48	61S04	NUT BINX	2
49	513358800	SUPPORT BRACKET	1
53	29S22	HOSE, OIL DRAIN, CLEAR PLASTIC, BRAIDED	1

200T YANMAR ELECTRICAL SYSTEM



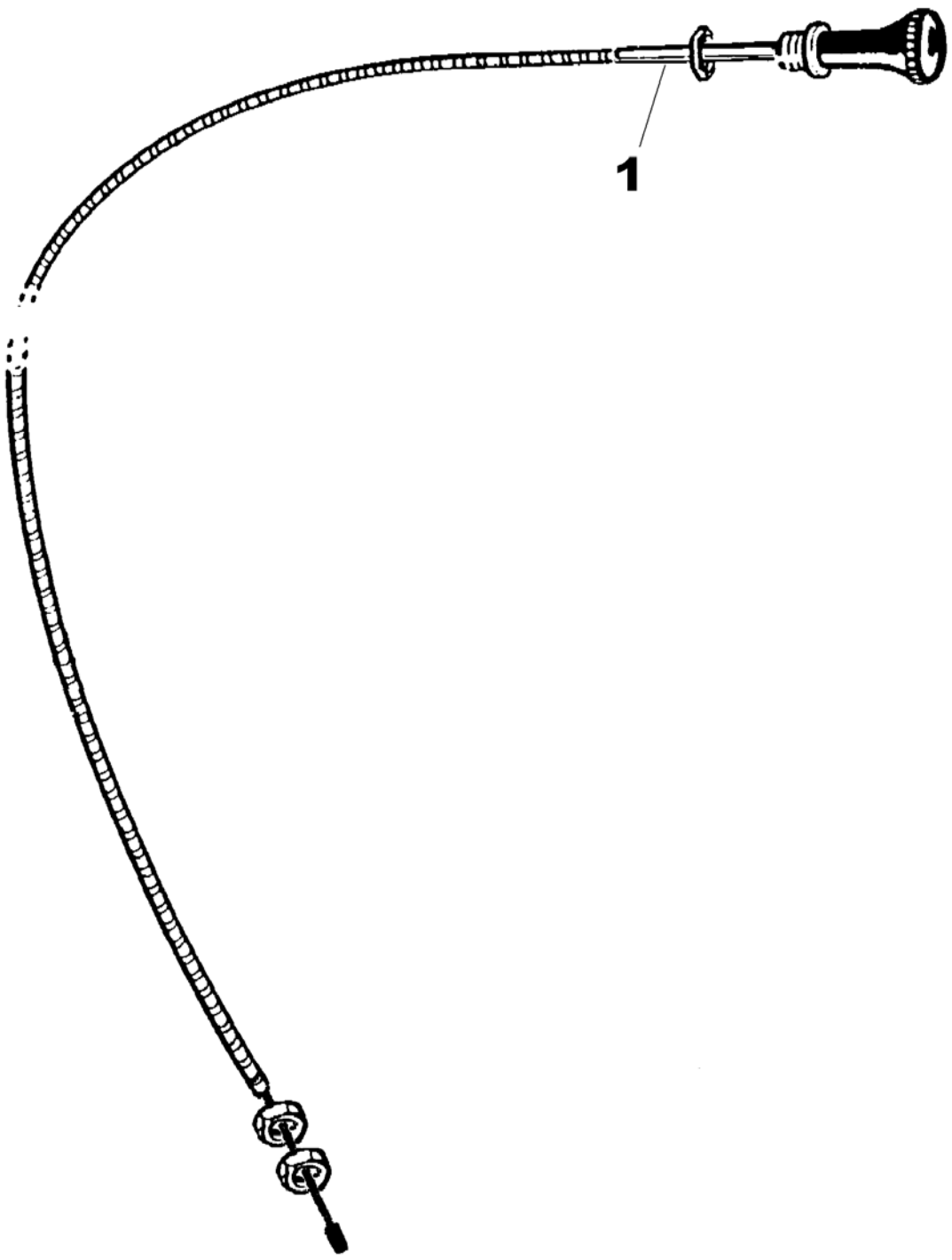
TAKE CARE WHEN FITTING THE BATTERY THAT THE BATTERY TERMINALS DO NOT SHORT OR ARC OUT ON THE ENGINE OR SHEETMETAL WORK

NOTE THAT THE LEAD TO THE SOLENOID CONNECTS TO TERMINAL 4 ON THE REAR OF THE START SWITCH

200T YANMAR ELECTRICAL SYSTEM

26	V2005211	CABLE, NEGATIVE EARTH	1
35	267S07	WASHER FLAT	2
36	17S06	WASHER SPRING	1
37	7S05	NUT	1
60	109S11	BATTERY 12 VOLT	1
61	11S02B	SCREW SET	1
62	267S04	WASHER FLAT	1
63	17S03	WASHER SPRING	1
64	7S02	NUT	1
65	513362000	COVER BATTERY	1
66	513361900	CLAMP BATTERY	1
67	52S02E	SCREW COUNTERSUNK	2
68	513361700	ROD BATTERY CLAMP	2
69	17S03	WASHER SPRING	2
69A	7S02	NUT	2
70	V2003561	SWITCH START C/W KEY	1
71	V601179	KEY,SUPPLIED WITH SWITCH	1
72	V2003540	RING KEY	1
73	513359200	BRACKET SWITCH START	1
73A	V2005218	DECAL SWITCH START	1
74	11S03A	SCREW SET	2
75	61S03	NUT BINX	2
80	513362200	LOOM WIRING	1
81	V2005209	CLIP 'P'	1
82	17S04	WASHER SPRING	1
83	1103A	SCREW SET	1

200T YANMAR ENGINE STOP CABLE



200T YANMAR L48 ENGINE STOP CABLE

1	513370900	STOP CABLE ASSEMBLY	1
2	V2006398	CABLE TIE NYLON, PANEL FITTING	1

200T DECALS AND LOGOS

1

200 T

2

WINGET

Model			
Serial no.			
Engine no.		Power output	
Capacity		Weight kg.	
SRO		Year of man.	

a Belton Group Company

3

DANGER
KEEP ENGINE HOUSING
LID CLOSED WHEN
ENGINE IS RUNNING

4

SAFETY WARNING

1 Before starting this machine, the operator should be familiar with the operating instructions issued by the manufacturer.

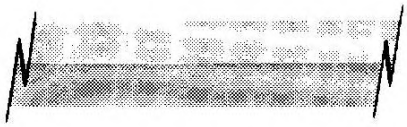
2 The manufacturer's rated capacity must never be exceeded.

3 Before carrying out any maintenance, servicing, or greasing, always ensure that the engine has been switched off. Never work on a machine while it is running.

5

WINGET

6



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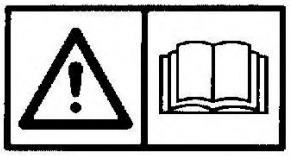

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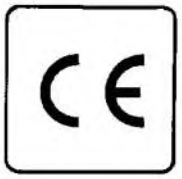

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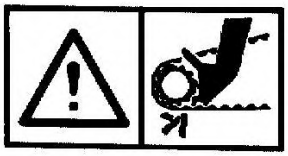

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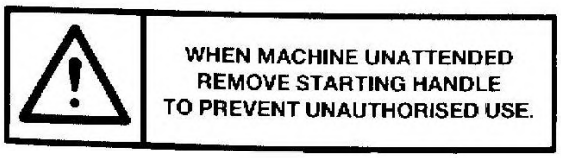

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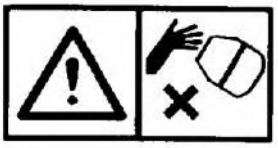

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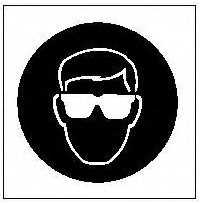

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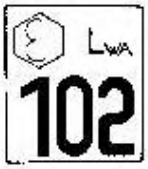

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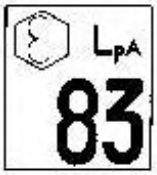

200T DECALS AND LOGO'S

1	V2003110	DECAL 200T	2
2	V2003037	PLATE SERIAL NUMBER	1
2A	101S05D	RIVET	4
3	504600900	DECAL ENGINE HOUSING	1
4	504694600	DECAL SAFETY	1
5	V2003039	DECAL WINGET	3
6	V2003038	DECAL STRIPE	2
7	V2003101	DECAL DIESEL	1
8	V2003665	DECAL LIFTING POINT	2
9	V2003598	DECAL BRITISH MADE	1
10	V2004307	DECAL ELECTRICAL HAZARD	2
11	V2004229	DECAL OPERATORS HANDBOOK	2
12	V2004223	DECAL CE MARK NI, EIRE & EUROPE ONLY	1
13	V2004282	DECAL HOT SURFACE	1
14	V2004281	DECAL ENTRAPMENT	1
15	V2004288	DECAL REMOVE STARTING HANDLE	1
16	V2004289	DECAL KEEP HANDS CLEAR	2
17	V2004302	DECAL ENGINE STOP	1
18	V2004744	DECAL EYE PROTECTION	1
19	V2004132	DECAL 102 LWA (LV1 DIESELS)	1
20	V2003574	DECAL 83 LPA (LV1)	1
21	V2004227	DECAL BATTERY ISOLATOR	1
22	V2004235	DECAL BATTERY NEGATIVE	1
23	V2005276	DECAL COLD START YANMAR, NOT USED ON L48V5\	1
24	V2005214	DECAL YANMAR RECOIL	1
25	V2005218	DECAL START SWITCH YANMAR L48	1
26	V2005208	DECAL FOLLOW INSTRUCTIONS	1
27	V2005311	DECAL 101 LWA (YANMAR DIESELS)	1
28	V2005290	DECAL ENGINE STOP BUTTON YANMAR L48	1
29	V2005291	DECAL TRANSPORTATION BY FORKLIFT	1
30	V2005630	DECAL LOCKING PLUNGER	1
31	V2004119	DECAL NOT A LIFTING POINT	2
32	513371100	DECAL EMERGENCY STOP	1
33	V2004130	DECAL 80LPA (YANMAR L48N5S/L48V5V)	1
34	V2006402	DECAL UKCA, UK & EXPORT OUTSIDE OF EUROPE	1
35	V2006403	DECAL UKNI NI ONLY WITH CE MARK	1
36	FSE357	DECAL ENGINE STOP	1

200T DECALS AND LOGOS

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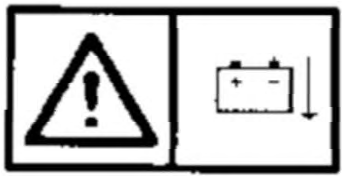

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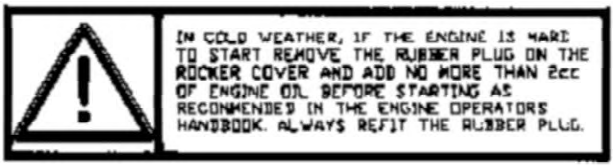

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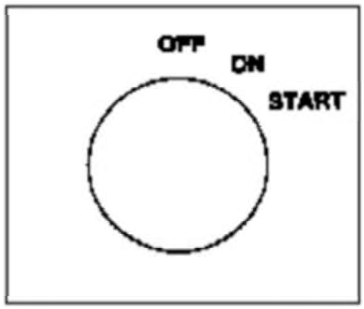

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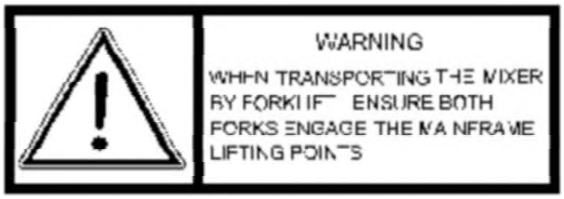

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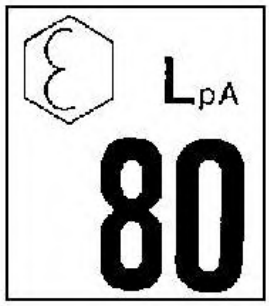

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CALIFORNIA

Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm