TM5-4000

WAR DEPARTMENT
MAINTENANCE MANUAL AND PARTS CATALOG

PNEUMATIC CHAIN SAW
TIMBERHOG 24"
REED-PRENTICE CORP.
WORCESTER, MASS.

SEPTEMBER 28, 1942

TM5—4000

WAR DEPARTMENT

TM5—4000, Maintenance Manual and Parts Catalog, Pneumatic Chain Saw Model Timberhog 24", published by the Reed-Prentice Corp., is furnished for the information and guidance of all concerned.

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Title—Pneumatic Chain Saw

Model—Timberhog (THA) 24"

Contractor—Reed-Prentice Corporation
Worcester, Mass.

Major Components—(a) Motor THA-52
(b) Tailstock THS-372
(c) Guide Bar THS-197
(d) Chain 15-THE-24"

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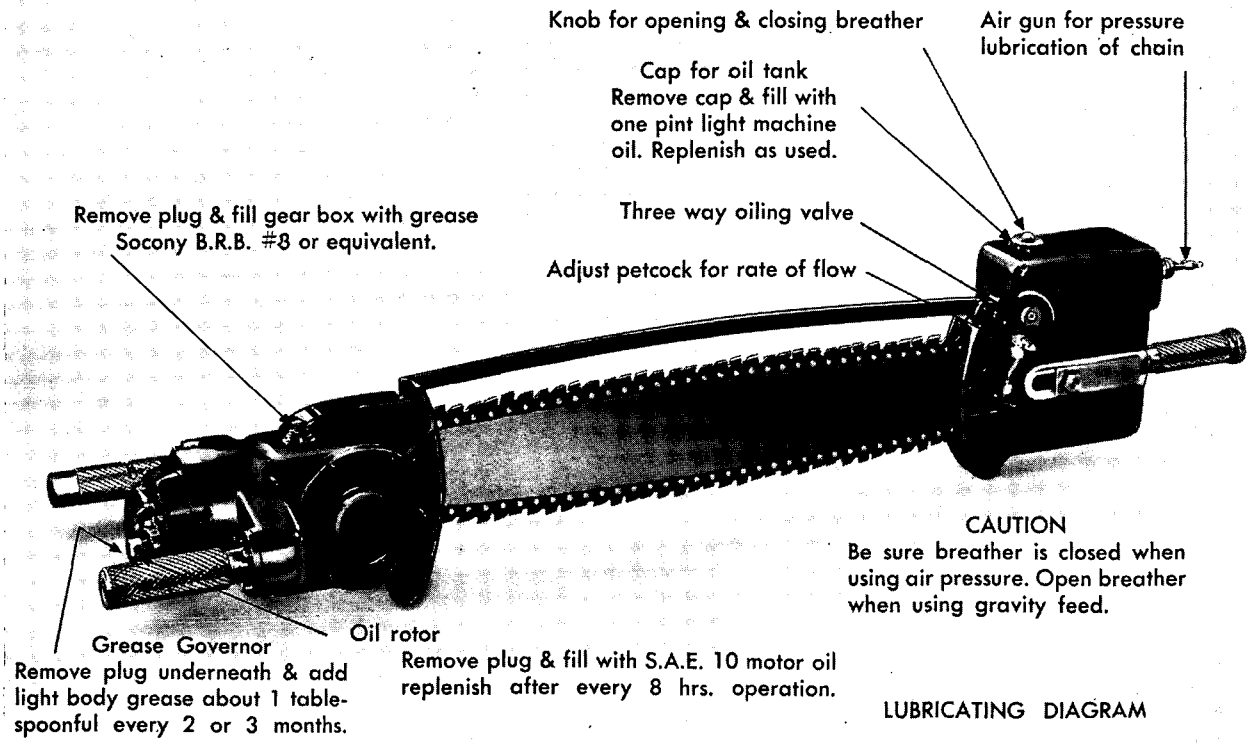

Knob for opening & closing breather
Air gun for pressure lubrication of chain
Cap for oil tank
Remove cap & fill with one pint light machine oil. Replenish as used.
Three way oiling valve
Adjust petcock for rate of flow
Remove plug & fill gear box with grease
Socony B.R.B. #8 or equivalent.
CAUTION
Be sure breather is closed when using air pressure. Open breather when using gravity feed.
Grease Governor
Remove plug underneath & add light body grease about 1 tablespoonful every 2 or 3 months.
Oil rotor
Remove plug & fill with S.A.E. 10 motor oil replenish after every 8 hrs. operation.
LUBRICATING DIAGRAM

FIG. 1

Operators' Manual

The Reed-Prentice Portable Timberhog Chain Saw is a light, powerful timber cutting unit. It operates with a compressed air motor which drives an endless saw tooth chain. An air supply of 90 cu. ft. per min. at 90 to 105 lbs. pressure drives the chain at the most efficient speed. The exhaust air is used to keep the chain clear of chips and to blow them away from operator.

The chain is made of cutter teeth in the form of links riveted together. These are of hardened steel and of such shape that a simple filing or grinding operation keeps the chain in most efficient cutting condition. It is driven by a sprocket at the motor end and is guided by the slots of the narrow cutter bar. A spring tensioned idler cushions the vibration of operation and also allows for adjustment of the tension in the chain. The chain is easily removed from the saw without disconnecting links. (See Fig. 3.)

Operation under or near water is easily accomplished. There are no electric connections that can be affected by contact with water. The saw operates to any depth that divers can operate, although it is necessary to increase air pressure according to depth unless the exhaust is piped to the surface.

The speed of the motor is adjusted by a throttle incorporated in the left handle, which directly controls the amount of air supplied to the rotor. A 30" length of hose isolates the coupling joint from the operator. Should the coupling separate, the "wild" hose end is far enough away from the operator to prevent injury.

Oiling

Before starting to operate the saw a careful check should be made to see that proper quantities of oil and grease are available at the important points. Figure 1 clearly outlines the points to be inspected and inspections thereon should be carefully observed.

1. Before starting a new motor pour about a teaspoonful of light oil into the air inlet.
2. Remove filler cap on tailstock and fill oil chamber with light machine oil. Replenish as used.
3. Pump up air pressure for pressure lubrication to chain. Make sure that breather is closed, by the knurled knob on filler cap, before pumping.
4. Turn 3-way valve to "on" position. When engaged in horizontal cutting the control above the blade should be in the "on" position.
5. Check pet-cock for oil supply to cutter bar.
6. Check the grease in the governor chamber.
7. Remove plug and check gear box—it should be full.
8. To oil rotor remove plug and fill with S.A.E. 10 motor oil. With the oil chamber full it should always be possible to collect oil on a paper held in front of the exhaust. *CAUTION*: Make this test only when the chain has been removed.
9. To grease governor remove plug and add light body grease —about one tablespoonful every two months.

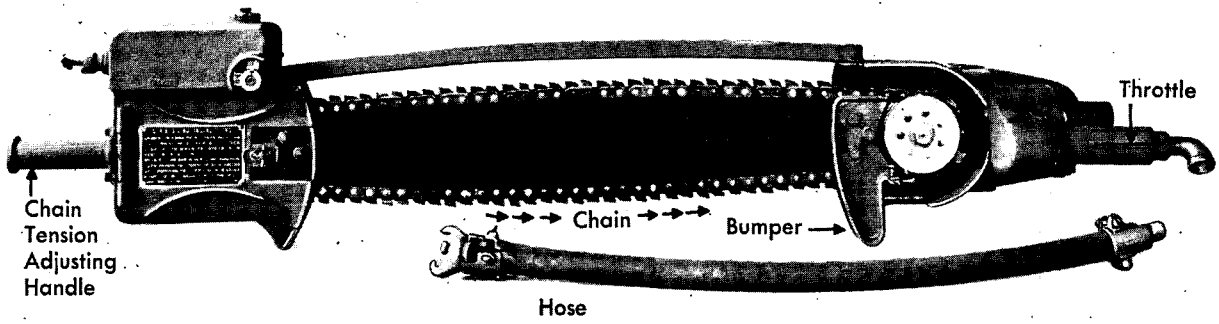


FIG. 2
OPERATING GUIDE

Chain Test

Tension of the chain is governed by the position of the idler. The chain tension adjusting handle (Fig. 2) is turned clockwise to pull the idler back and tighten the chain. Test tension in the chain by lifting it from the cutting bar. When tension is CORRECT the chain will be lifted ¼ inch from center of the cutter bar.

Starting

The air motor is started by slowly turning the knurled throttle handle. The saw chain will then move in the groove of the cutter bar. The cutting side is that which moves toward the motor. Use care in engaging the cut. The bumper on the motor end is placed against the work before the chain bites into the wood. The chain is traveling toward the motor when cutting and the bumper takes the thrust of the cutting.

Sawing

Use all available power for cutting. Keep feeding the saw into the work, the sound of the exhaust will indicate if the saw is being overloaded. Only then should the cut be eased up.

Binding in the cut can also slow down the operation. Cut straight through the log, a curving cut causes binding. If the cut "curves" examine the cutter bar for uneven wear. Both sides of the groove should be evenly worn. Minor discrepancies can be dressed out with a file.

When felling, a notch is cut on one side of the tree in the direction of the fall. The final cut is then made from the opposite side.

It is important to maintain a constant flow of oil to the chain. Lack of oil may be due to: (1) no air pressure, (2) filler cap is loose, (3) breather on filler is not closed, or (4) line is clogged.

The oil supply to the chain should be watched. Lack of lubrication to the chain will also cause slowing down although not to a very marked extent until the lack of oil becomes critical.

Lack of oil feed to the chain may be due to the following reasons. The filler cap, or breather on the cap, may be loose. If so, tighten and pump more air into the tank. It is also very possible that the original supply of air pressure has been used up and will require repumping. The oil line may be clogged. If extra air pressure will not clear it, remove the copper tube and clean ALL the passages.

A dull chain will reduce the speed of cutting. Replace with a sharp chain or resharpen the dull one.

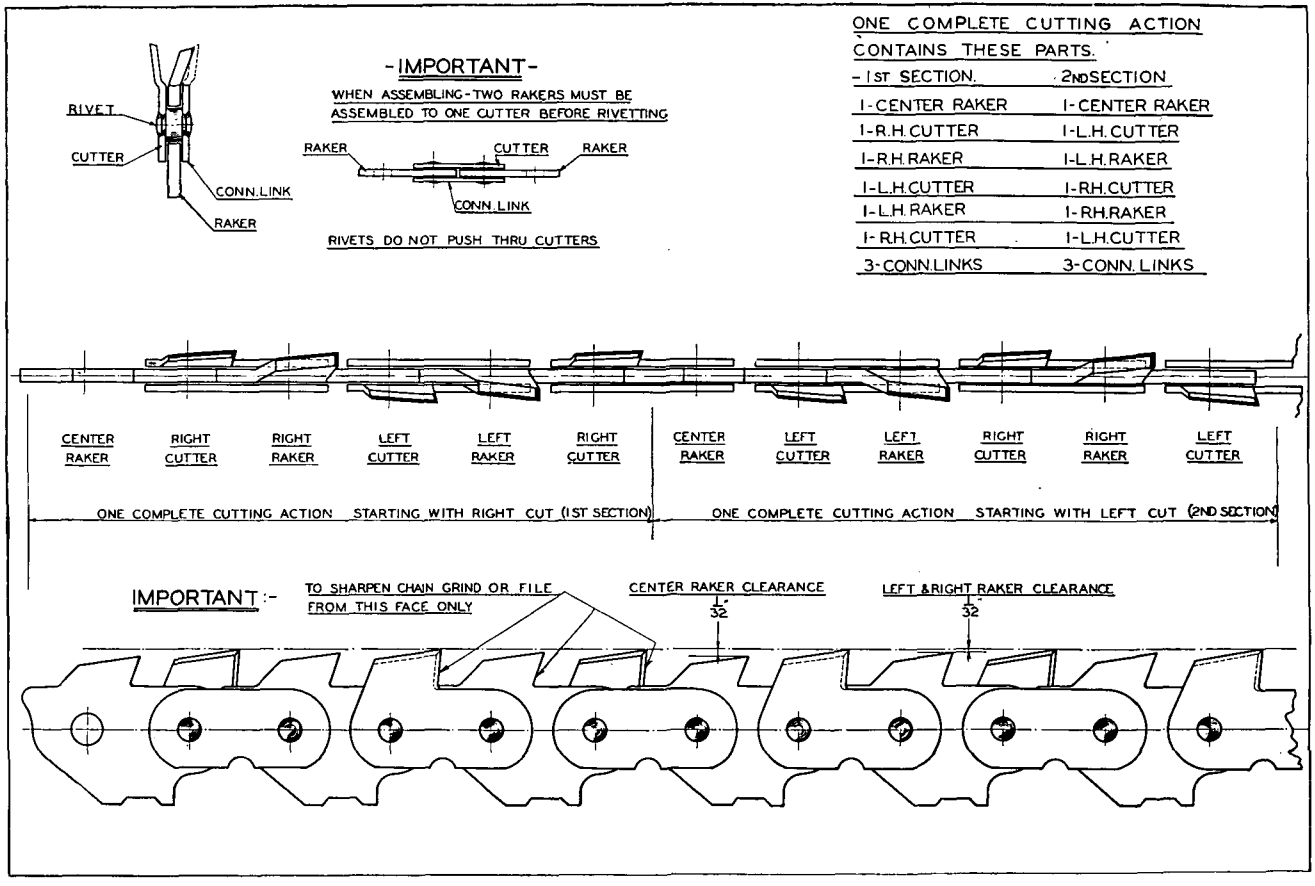


FIG. 4—SAW CHAIN

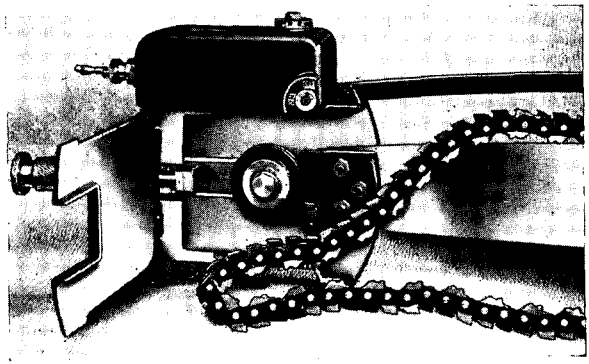


FIG. 3

Removal of Saw Chain

Saw chains are easily removed from the saw. Figure 3 shows this operation partially performed. The door on the tailstock end is opened. The tension in the chain is entirely removed by moving the idler to its extreme "loose" position. The chain is then lifted out of the idler groove and successively removed from the cutter bar and driving sprocket.

Saw Chain

The chain is made of a number of links riveted together. The outer links of the chain consist of the cutter teeth and the plain links. The inner links are the rakers which extend below the outer links forming a guide that rides in the groove of the cutter bar. These extensions on the rakers provide the means for engaging the driving sprocket.

The combination of cutters and rakers form a zigzag pattern. Figure 4 shows that every set of six links forms a "cutting action," or sequence which is repeated throughout the chain.

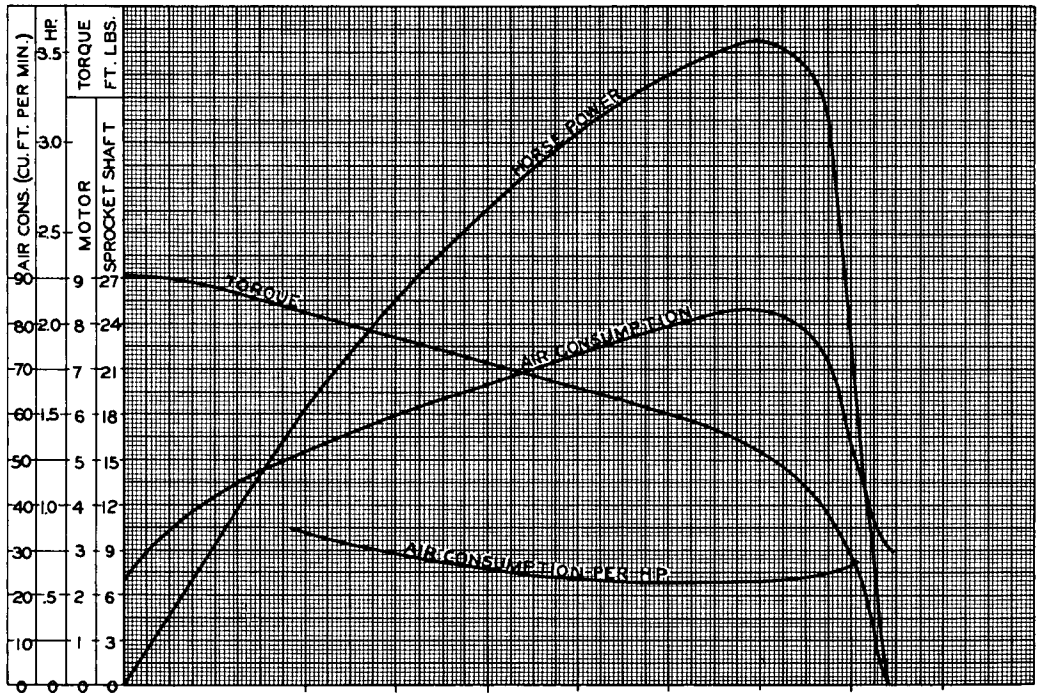
SHARPENING the saw chain is a simple operation and can easily be performed by the operator. It consists merely of filing the front cutting edge of each tooth taking care that the original angle is not changed. This can be performed with the chain on the saw. *CAUTION:* When filing the chain on the saw *UNCOUPLE THE AIR CONNECTION.*

Complete details of chain maintenance will be found in the maintenance section of this book.

Miscellaneous

A complete set of tools is provided. In addition to the operations already listed, keep the bolts on the entire machine tightened. A clean machine will allow easy inspection for loose bolts and screws. Check all bolts and screws frequently. Carelessness in this respect will cause excessive wear and unsatisfactory performance.

REED-PRENTICE TIMBERHOG AIR SAW



TORQUE & HP CURVE WITH 90# AIR
TESTED WITH 20 FT. - ½" HOSE

REED-PRENTICE CORP.
WORCESTER MASS.

THA-77

FIG. 5

INSTRUCTION BOOK

(MAINTENANCE MANUAL)

for

Reed-Prentice Portable Timberhog Saw

Maintenance Manual

The Reed-Prentice Portable Timberhog Saw operates with a compressed air supply of 90 cubic feet per minute at 90 to 105 pounds tank pressure. The air supply is coupled onto the end of the 30″ hose which is attached to the left handle of the motor. The handle is also the throttle and the amount of air supply is governed by twisting this handle. The 30″ length of hose is provided as a safety device so that should the coupling break loose the wild end of the air hose will not endanger the operator.

The compressed air drives a vane type motor in which is incorporated a governor and an automatic oiling device. The automatic oiling device supplies a light mist of oil that lubricates the vanes and rotor.

The power from the air motor is transferred through a pair of bevel gears to the sprocket. The gear box requires grease, the bearings have lubricant sealed within them and need not receive special attention. The sprocket is mounted on the bevel gear shaft and drives the saw chain which travels in a groove in the cutter bar. The cutter bar is rigidly connected at the motor end and at the tailstock end. It is shaped with a slight radius to improve the cutting action of the chain. The tailstock contains the idler which is adjustable and is used to remove the slack in the chain and to govern the tension. There is a spring device incorporated in the tailstock which acts as a shock absorber. An oil tank mounted on top of the tailstock supplies oil to lubricate the chain and cutter bar.

Air Motor

The motor contains a built-in oiler of the needle valve type which has been adjusted for proper lubrication at the factory. To fill the oil chamber, remove the ¼″ pipe plug in the cap at the point marked "Oil." This chamber should be filled with a good grade of SAE-10 or 200 viscosity oil for each eight hours of use.

Before starting a new motor or one which has been idle for a week or more, check the oil chamber in the cap to see that it is full. Pour a teaspoonful of oil directly into the motor intake line.

Grease should be added to the governor chamber about once every two or three months. The ⅛″ pipe plug on the side of the motor cap provides an opening for adding this grease. Any light body grease is satisfactory. Do not overpack the governor chamber with grease, as all excess will blow out of the exhaust. About one tablespoonful per application is sufficient.

It is very important that the air strainer in the throttle handle (E3) be kept clean to avoid loss of power.

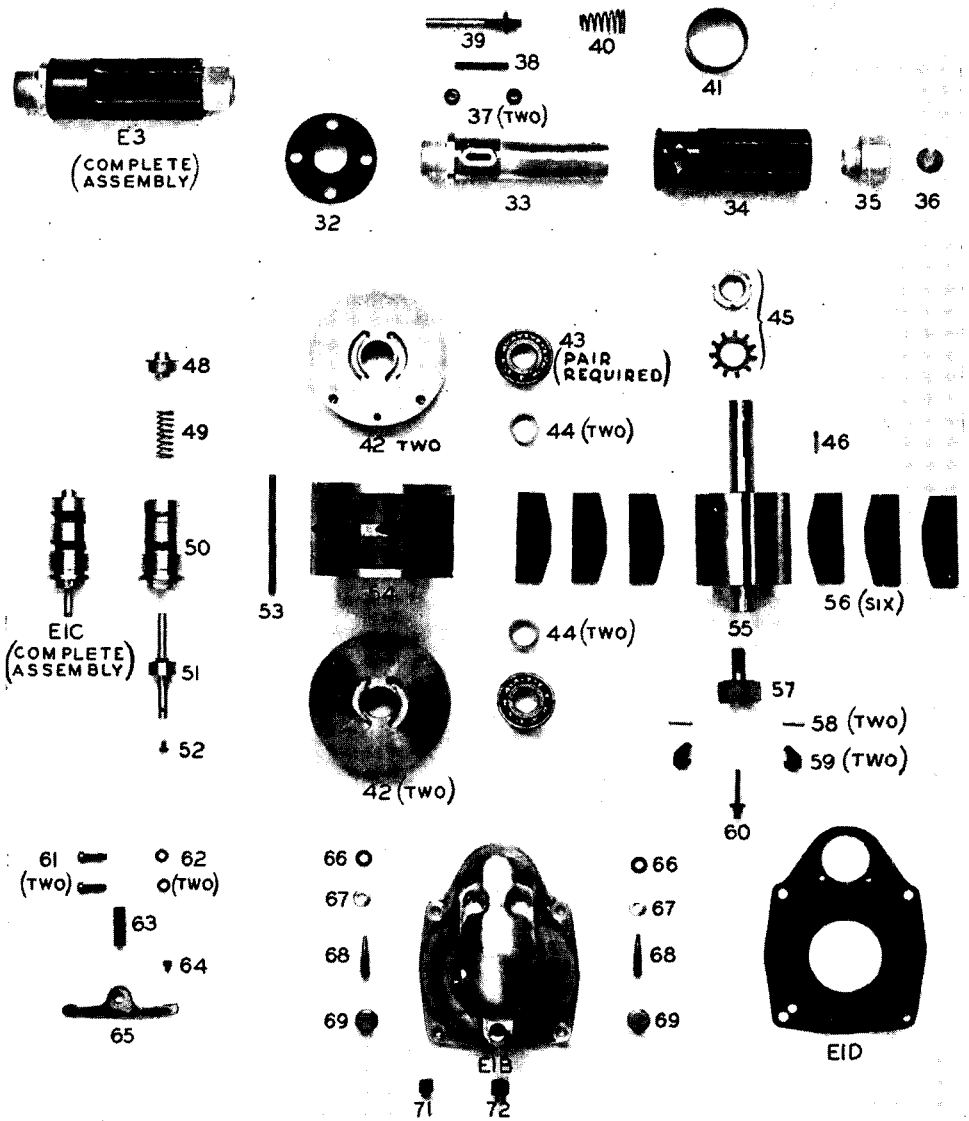


FIG. 6
AIR MOTOR PARTS

Assembly and Disassembly

To dismantle the motor, first remove the motor cap (E1B) by unscrewing the four screws which hold it to the motor housing. The cap will lift off readily after the screws are removed. Removal of the cap exposes the governor valve (E1C) and governor body (57).

The complete governor valve assembly can be removed for inspection by unscrewing it from the housing. To take the governor valve assembly apart, press the plug (48) out of the back end of the governor cage by pressing on the protruding end of the stem on the governor valve (51). The governor valve (51) should be checked for freeness in the cage (50). Any sticky spots in this unit should be eliminated to insure proper operation.

Inspection of the vanes (56) can be made by unscrewing the governor body (57) (*right-hand thread*) from the rotor (55) and removing the top end plate (42). The top end plate (42) fits snugly into the housing and can be removed after the governor body has been taken out by striking the edge of the motor housing with a fiber mallet. After the top end plate is taken off, the vanes (56) can be lifted out of the motor without any further disassembly.

Removal of the rotor necessitates the disassembly of the pinion (E6) (Fig. 7) and pinion spacer (E5) (Fig. 7), after which the rotor can be pulled out of the motor. When assembling a rotor, always pull up tightly on the lock nut (E8) (Fig. 7) which holds the pinion in place. This will pull the rotor up against the end plate to a point where it may actually rub a little. In pulling up tightly on the governor body (57) when assembling the other end of the motor, however, the rotor will be pulled toward the upper end plate, locking it in a freely suspended position between the two end plates.

The rotor bearings (43) on these motors are supplied in pairs only. Always keep pairs together. *Never replace just one rotor bearing.* If bearing pairs are mixed up or an old bearing is used with a new one, the rotor is not apt to be properly locked in position and rubbing on the end plates may result. It is absolutely necessary when installing a new pair of bearings that they be assembled into the motor with the same back to back assembly as when packed in the box by the bearing manufacturer.

If it is ever necessary to remove the liner or bottom end plate from the motor housing, heat the motor housing around the outside with a torch. This will allow the housing to expand enough to permit these parts to drop out. Heating of the housing should be done as rapidly as it is possible to prevent the heat from conducting to the bottom end plate which would also expand. Removal of these parts should seldom be necessary.

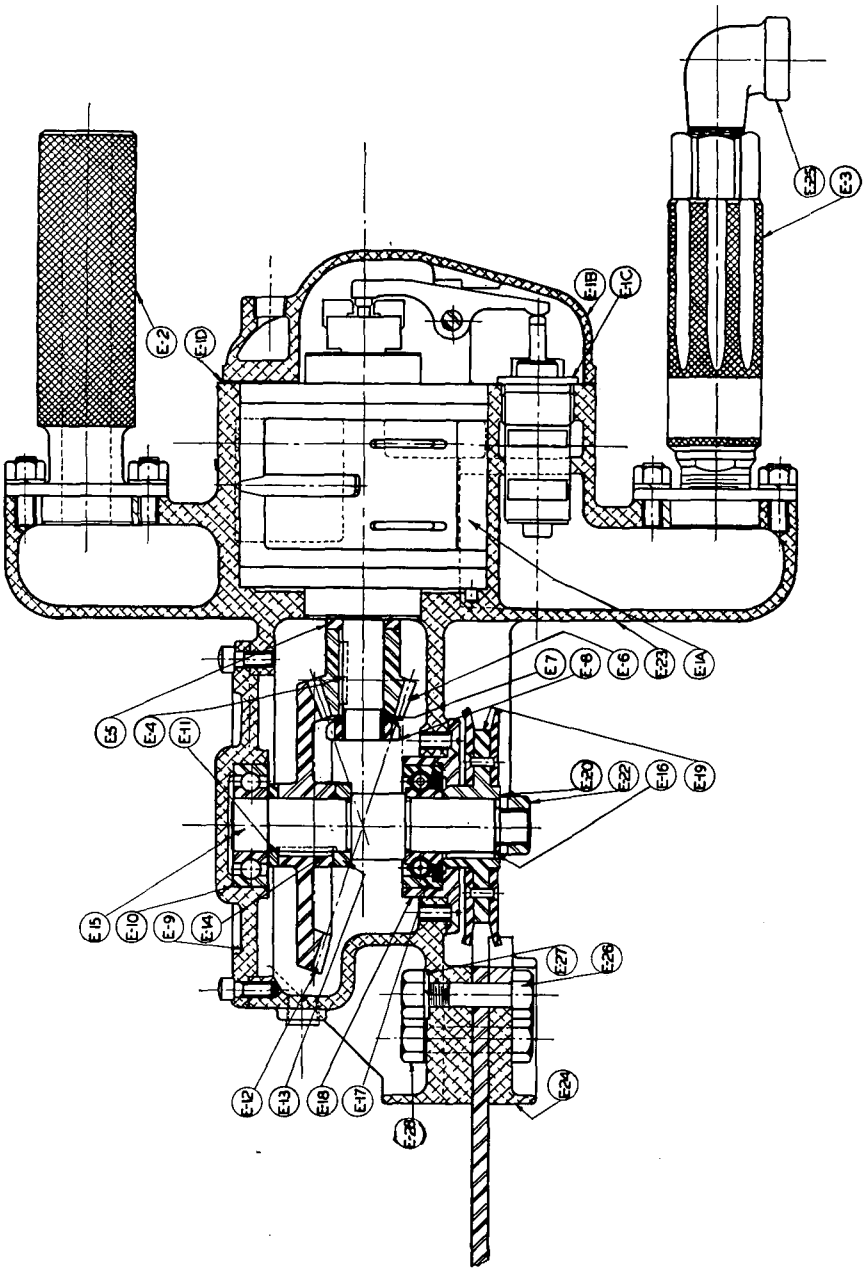


FIG. 7
MOTOR AND GEAR BOX

Gear Box

Figure 7 and Fig. 12 in the Parts List section show the assembly of the gear box unit. E1A is the complete rotor assembly. The bevel pinion (E6), the spacer (E5), and the key (E4) are assembled to the shaft on this rotor. They are locked in place with the lock washer (E7) and the lock nut (E8). These parts should be assembled to the rotor before the rotor is placed into the main housing (E23). Note that there is a pin which projects beyond the rotor assembly. This pin locates the several parts of the rotor housing and must fit into the hole drilled into the main housing. It is helpful when assembling this rotor to use a dummy pin. Such a dummy pin should be about twice as long as the rotor assembly and should be inserted in the hole in the main housing (E23). The regular pin is then removed from the rotor (E1A) and the entire assembly is placed in the main housing. The long dummy pin makes it easy to line up the complete assembly as it is put in place. It is necessary to heat the housing to approximately 150° F. so that this part can be assembled easily. When the rotor is in place the dummy pin is removed and the regular pin is inserted. The governor (E1C) is also put in place and the cap (E1B) is assembled with the gasket (E1D).

Sprocket Shaft

The parts for the sprocket shaft are assembled in the order as shown in Fig. 7. The key (E14) fits into the key slot on the shaft (E15). The parts (E13), (E12), and (E11) are then assembled in the order named. The bearing (E10) is assembled into the end cap (E9). It will be necessary to heat this end cap before assembling the bearing. The bearing (E17) is assembled into the steel bearing housing (E18). This bearing is of the single seal type and the sealed end should be toward the sprocket. The bearing and support (E18) are placed into the main housing (E23). The shaft assembly, consiting of (E15), (E14), (E13), (E12), and (E11), is put in place with the threaded end extending through the bearing (E17). The end cap (E9) assembled with the bearing (E10) is then put in place in the housing. If the two bevel gears have been properly assembled they should mate properly. The pipe plug on the top of the main housing is located to allow the bevel gear engagement to be seen when the gear box is assembled. The key (E16) is assembled along with the sprocket (E19). The extended hub on the sprocket is assembled in the direction of the bearing (E17). The washer (E20) and nut (E22) are then used to securely lock the sprocket in place. When the nut is being drawn up tight it is necessary to keep the sprocket stationary so that the shaft will not rotate. The gear box requires ½ lb. of Semi-Fiber grease similar to Socony BRB #2 grease or equivalent; for temperatures below 32° high grade SAE 60 or 90 Transmission Oil is recommended. For extreme low temperature this same oil can be mixed with kerosene. The cutter bar and guard are attached to the main housing by bolts and nuts (E26), (E27), (E28). The bumper or horn (E24) is assembled along with the cutter bar using the same bolts.

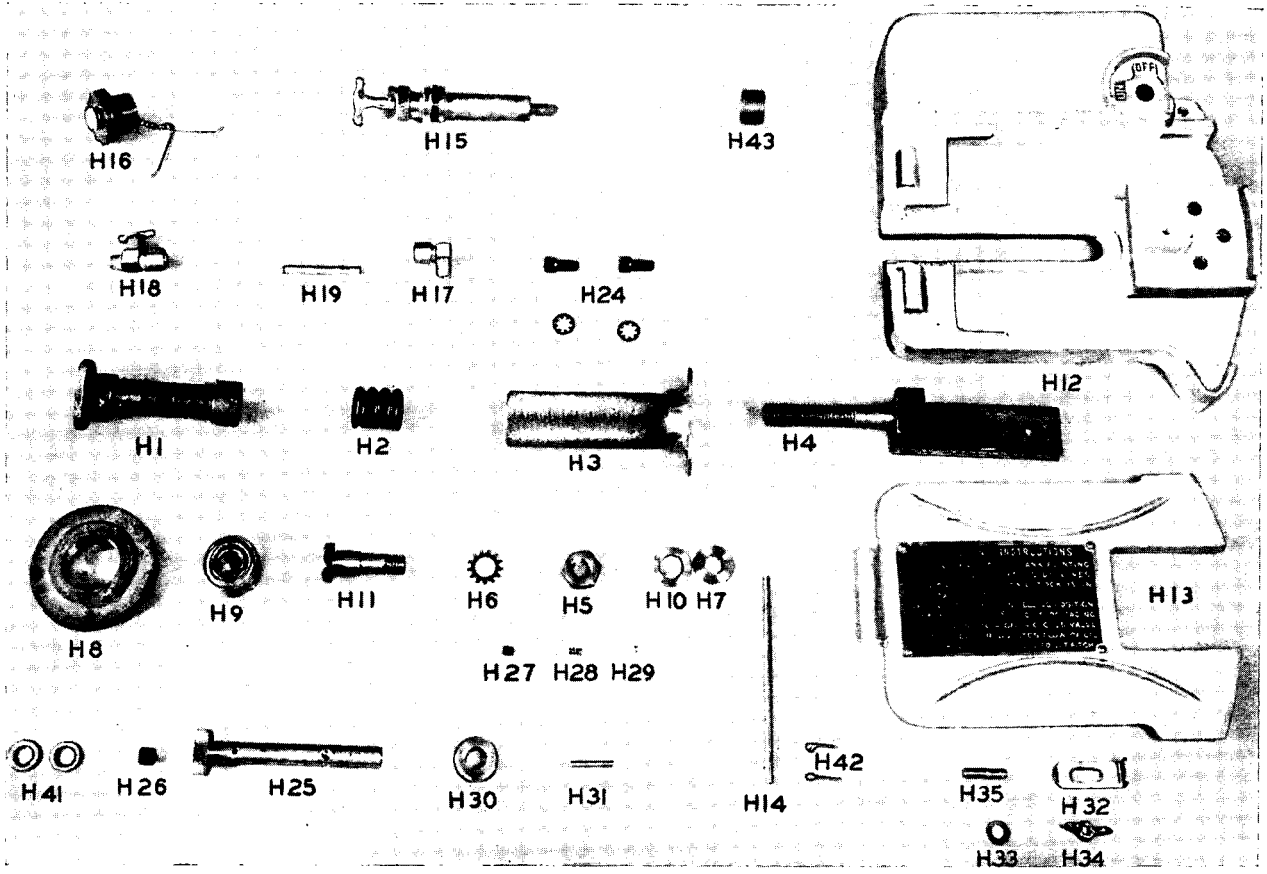


FIG. 8—TAILSTOCK PARTS (See Fig. 9)

Tailstock

The main function of the tailstock is to provide a spring tension ball bearing idler to support the cutting chain at the tailstock end of the saw. The spring tension acts as a shock absorber for the saw chain in operation. The chain is removed from the cutter bar by moving the idler until the slackness of chain permits its removal from the groove and sprocket.

A 3-way oiler valve is provided on the oil reservoir to ensure a continuous flow of oil to the cutter bar and chain whether cutting horizontally or vertically.

The ball bearing (H9) used in the idler is of the completely sealed type and should require no further greasing. The bearing is assembled to the idler (H8) with a light press fit. If necessary the bearing can be easily removed, using a small arbor press. Care should be taken that the bearing is not damaged by forcing on the inner race. The idler is held in cantelever suspension by the idler stud (H11) which screws into the chain tension bracket (H4). Slots in this bracket fit the slide in the tailstock casting (H12) and hold the idler in alignment. The sequence of assembly of the bracket, idler, spacers, etc. is plainly shown in the Fig. 9.

The helper's handle (H3) is assembled to the tailstock casting after the sprocket and bracket assembly is in place. The chain tension spring (H2) is placed inside the handle before the adjusting knob (H1) is screwed onto the idler bracket stud. The adjusting knob controls the position of the idler which puts more or less tension upon the chain as required.

The tailstock also contains the oil reservoir which supplies oil to the cutter bar and the chain. A small air pump (H15) is used to set up a pressure in the tank and force the oil into the cutter bar during the cutting action. The oil is fed from the reservoir to the cutter bar through the oil line and fittings (H17), (H18), and (H19). A pet cock (H18) is provided for adjusting the flow of oil.

To assemble a 3-way oiler valve insert Allen pipe plug (H26) into dial end of oiling stem (H25). Place one gasket (H41) on oiling stem (H25) and insert into opening in oil reservoir on casting (H12). Oiling stem must be inserted from the PET-COCK side. Fit gasket (H41) over end of oiling stem (H25) making sure that gasket fits snugly into the counter-sunk space in casting (H12). Collar (H30) is fitted onto stem (H25) and is held in place by taper pin (H31). Ball (H29), spring (H28), and set screw (H27) should be inserted in this sequence into opening provided in oil reservoir tank. These serve as a detent for stem (H25). During disassembly it is important that these three parts be removed prior to removal of oiling stem (H25).

The cutter bar fits into a slot on the end of the tailstock casting and is held in place by the 3 bolts and nuts. This cutter bar is so designed that it can be assembled in any position and at all times the necessary oil and bolt holes will be properly lined up. The oil from the reservoir is supplied through a slot on the side of the cutter bar to the bottom groove. Before attaching the cutter bar make sure that this groove is clear so that the oil can easily reach the chain.

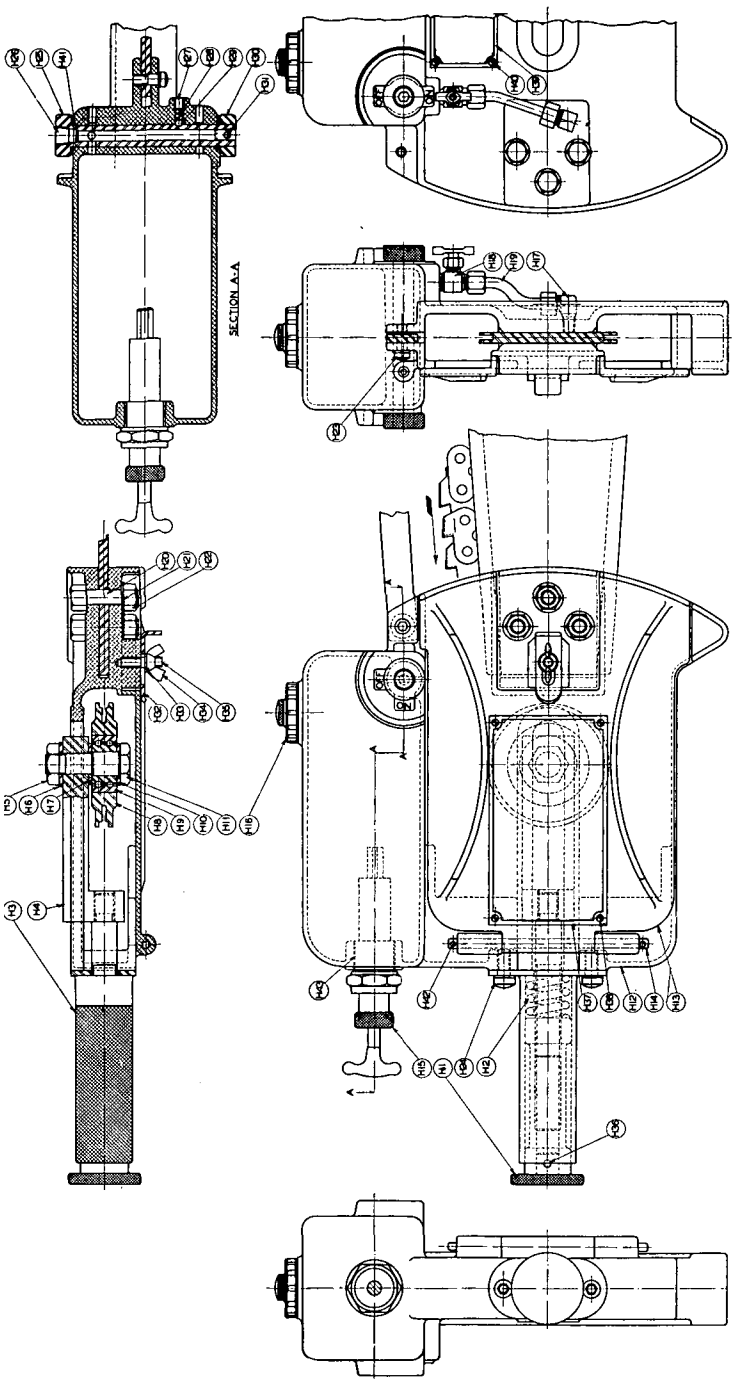


FIG. 9—TAILSTOCK

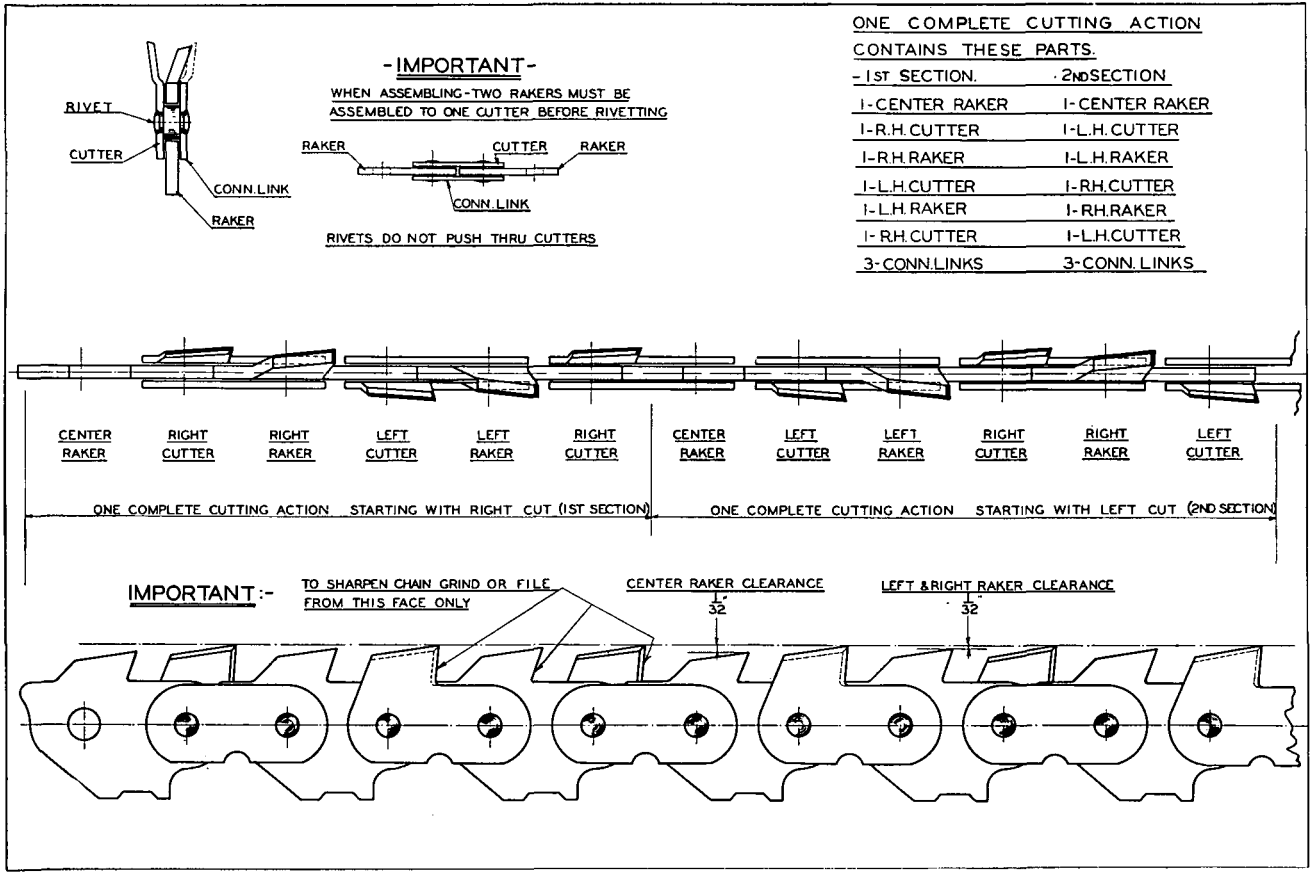

RIVET
CUTTER
CONN.LINK
RAKER
-IMPORTANT-
WHEN ASSEMBLING-TWO RAKERS MUST BE ASSEMBLED TO ONE CUTTER BEFORE RIVETTING
RAKER
CUTTER
RAKER
CONN.LINK
RIVETS DO NOT PUSH THRU CUTTERS
ONE COMPLETE CUTTING ACTION CONTAINS THESE PARTS.
1-CENTER RAKER
1-R.H.CUTTER
1-R.H.RAKER
1-L.H.CUTTER
1-L.H.RAKER
1-R.H.CUTTER
3-CONN.LINKS
2ND SECTION
1-CENTER RAKER
1-L.H.CUTTER
1-L.H.RAKER
1-R.H.CUTTER
1-R.H.RAKER
1-L.H.CUTTER
3-CONN.LINKS
CENTER RAKER
RIGHT CUTTER
RIGHT RAKER
LEFT CUTTER
LEFT RAKER
RIGHT CUTTER
CENTER RAKER
LEFT CUTTER
LEFT RAKER
RIGHT CUTTER
RIGHT RAKER
LEFT CUTTER
ONE COMPLETE CUTTING ACTION STARTING WITH RIGHT CUT (1ST SECTION)
ONE COMPLETE CUTTING ACTION STARTING WITH LEFT CUT (2ND SECTION)
IMPORTANT:-
TO SHARPEN CHAIN GRIND OR FILE FROM THIS FACE ONLY
CENTER RAKER CLEARANCE
32
LEFT &RIGHT RAKER CLEARANCE
32

FIG. 10—CHAIN

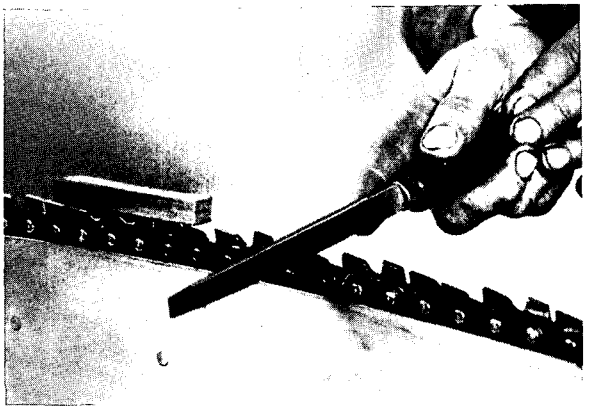


FIG. 11

Chain

The construction of the Timberhog saw chain is illustrated in Fig. 10 which shows that every set of six links forms a "cutting action." Each cutting action consists of a sequence as follows: left cutter, right raker, right cutter, left raker, left cutter, and center raker. To balance the chain one cutting action or sequence starts with a left cutter and the next with a right cutter. The sequences are repeated throughout the entire chain.

The links or teeth are riveted together and the entire chain is supplied as one endless unit. The rivets are made with a shoulder against which the outer or side cutters are riveted. The shoulder properly spaces the side cutters so that clearance is maintained with the center links or rakers to provide a flexible chain. It is generally not necessary to do more than file the front edges of the teeth to keep the saw cutting efficiently. However, occasionally other maintenance is required.

Sharpening the Saw Chain

To sharpen the saw chain it is filed or ground on the front cutting edge as shown in Fig. 11. Take care that the original angle is not changed by filing.

Occasionally when cutting frozen or exceptionally hard wood it is necessary to set back the angle of the cutting teeth and undercut the raker teeth. This filing operation should not be performed unless absolutely necessary. The change of angle should be slight and is governed by the hardness of the wood to be cut.

Resetting the Saw Chain

If the chain is binding in the cut it may be necessary to reset the cutting teeth. Resetting consists of bending the cutter teeth outward so that a wider cut will result, giving more clearance. This operation should be performed with a setting tool so that the set in all the teeth will be uniform. Use only enough set to clear the chain as too much set reduces the efficiency of the cutting chain.

Jointing the Saw Chain

Jointing the saw chain consists of grinding or filing the top of the rakers so that they are lower than the cutter. The clearance for the rakers is approximately 1/32 of an inch. A flat gage is provided which can be used to gage the clearance properly.

Replacing Damaged Teeth

To remove a damaged cutter it is necessary to grind or file the heads from the two rivets that hold the plain link paired with the cutter. Do not attempt to remove one rivet at a time because these are made with a shoulder and will not pass through the cutter. A cold chisel can be used to separate the plain link from the rivets. The damaged tooth together with the rivets is then removed from the chain. The plain link may be used again.

Before replacing the cutter insert rivets in the two rakers. Assemble the plain link and cutter in pairs and peen over the heads of the rivets. Make sure that assembly is complete before rivetting.

The replaced tooth should be filed and jointed so that it will match the other teeth in the chain.

PARTS LIST
for
Reed-Prentice Timberhog Saw

IMPORTANT

SUPPLY SERIAL NUMBER OF MACHINE
WHEN ORDERING REPAIR PARTS

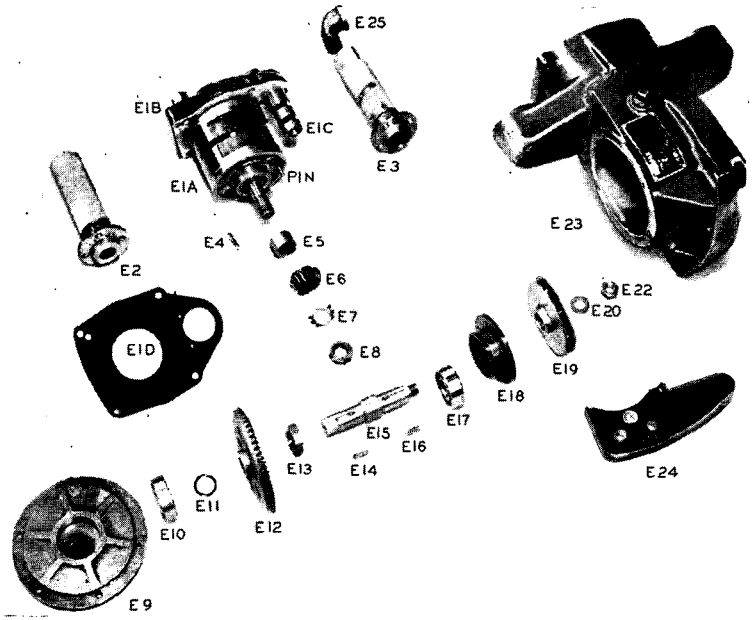


FIGURE 12
(Also see Fig. 7 in Maintenance Sec.)

MOTOR PARTS

NUMBER	NAME	PART NO.	QUAN. PER MACHINE
E 1 a	Air Motor		1
E 1 b	Housing Cap		1
E 1 c	Governor		1
E 1 d	Gasket	THA-60	1
E 2	Handle	THA-49	1
E 3	Throttle and Handle		1
E 4	⅛"×⅛"×1" Rd. End Key		1
E 5	Bevel Pinion Spacer	THA-56	1
E 6	Bevel Pinion (18T)	THA-41	1
E 7	Fafnir Lockwasher	W-03	1
E 8	Fafnir Locknut	N-03	1
E 9	Motor Housing Cover	THA-6	1
E 10	Fafnir Ball Bearing	204-K	1
E 11	Sprocket Shaft Spacer	THA-54	1
E 12	Bevel Gear (54T)	THA-40	1
E 13	Sprocket Shaft Spacer	THA-55	1
E 14	3/16"×3/16"×⅞" Rd. End Key		1
E 15	Sprocket Shaft	THA-53	1
E 16	3/16"×3/16"×¾" Rd. End Key		1
E 17	Fafnir Ball Bearing	204-KT	1
E 18	Motor Housing Cap	THG-151	1
E 19	7-Tooth Sprocket	THA-57	1
E 20	½" Plain Washer		1
E 22	½"—20 SAE Check Nut		1
E 23	Motor Housing	THA-48	1
E 24	Chain Guide Clamp	THA-50	1
E 25	½" M. I. Street Elbow		1
E 26	⅜"—24×1¾" Hex SAE Bolts	For attaching	3
E 27	⅜" Lockwashers	cutter bar	3
E 28	⅜"—24 SAE Hex Nuts	(not shown)	3
E 29	Hose section consisting of: ¾" leader 30" long with manufacturer's standard coupling at motor end and a quick detachable universal hose coupling to ¾" air line.	(Not shown—See Fig. 1)	1

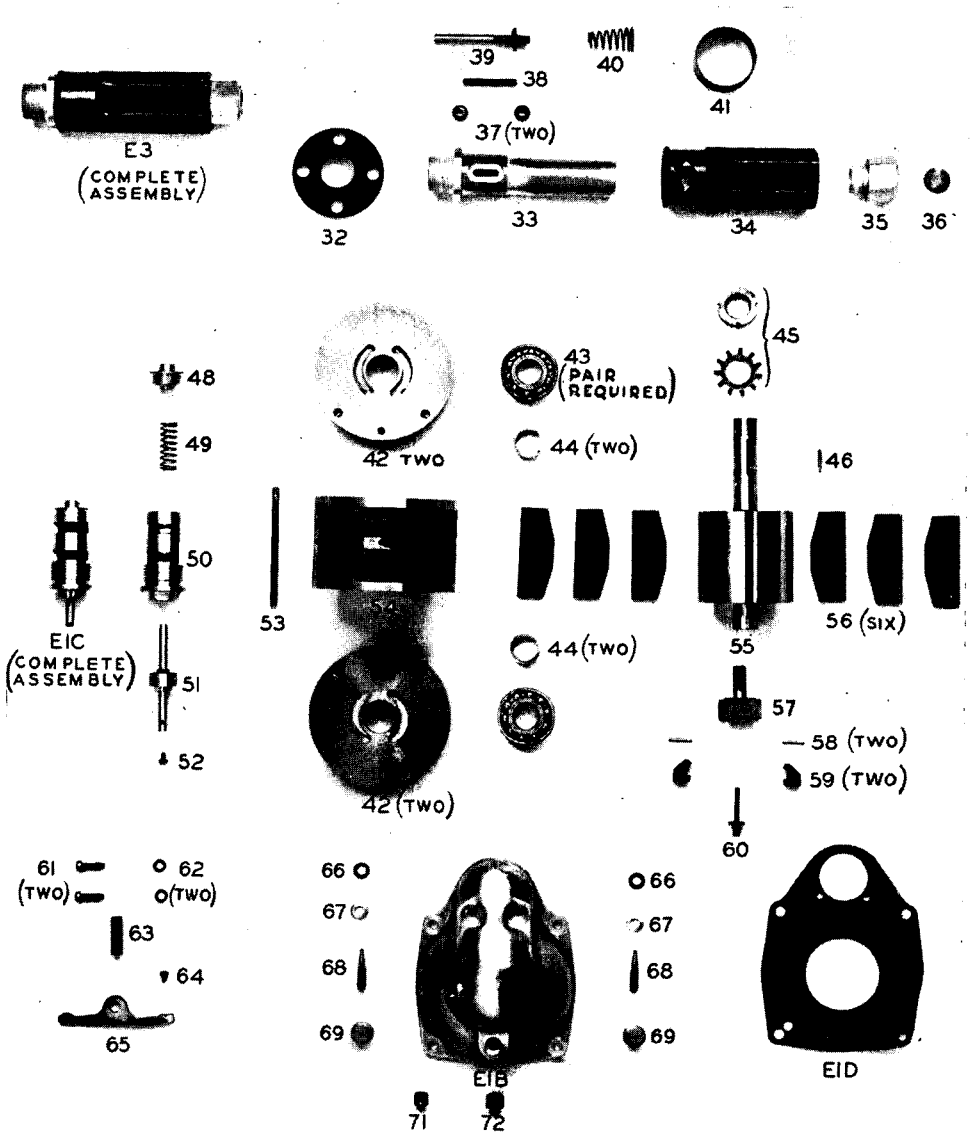

E3
(COMPLETE)
(ASSEMBLY)
39
38
40
41
37 (TWO)
32
33
34
35
36
48
49
42 TWO
43
(PAIR
REQUIRED)
45
44 (TWO)
46
50
53
E1C
(COMPLETE)
(ASSEMBLY)
51
52
44 (TWO)
55
56 (SIX)
57
58 (TWO)
59 (TWO)
42 (TWO)
60
61
(TWO)
62
(TWO)
63
64
65
66
67
68
69
E1B
71
72
66
67
68
69
E1D

FIG. 13

MOTOR PARTS (Cont.)

FIGURE 13

NUMBER	NAME	PART NO.	QUAN. PER MACHINE
E 3	Live Air Handle Complete (Safety-Lock Type) Consists of:	C-77183	1
32	Handle Adaptor	C-77184	1
33	Live Air Handle Stem	C-77187	1
34	Live Air Handle Sleeve	C-66593	1
35	Live Air Handle Cap	C-34065	1
36	Air Strainer	C-36909	1
37	Live Air Handle Stem Roller	C-34056	2
38	Live Air Handle Stem Roller Pin	C-34066	1
39	Live Air Handle Plug	C-34054	1
40	Live Air Handle Plug Spring	C-77054	1
41	Live Air Handle Stem Roller Protector	C-35574	1
42	End Plates	C-76481	2
43	Rotor Bearing ND #20203-DB (One Pair)	C-76484	1
44	Bearing Spacer Collar	C-76501	2
45	#3 Bearing Lock Nut & Washer	S-15404	1
46	⅛" Key (Rotor)	S-25393	1
E 1C	Governor Valve Cage (as sold) Consists of:	C-77012	1
48	Governor Valve Cage Plug	C-66954	1
49	Governor Valve Spring	C-66511	1
50	Governor Valve Cage	C-66956	1
51	Governor Valve	C-66953	1
52	Governor Valve Button	C-66054	1
53	Liner & End Plate Dowel	C-76502	1
54	Liner	C-76480	1
55	Rotor	C-77188	1
56	Rotor Blades	C-37017	6
57	Governor Body	C-77185	1
58	Governor Weight Pin	C-35104	2
59	Governor Weight	C-66728	2
60	Governor Push Pin	C-64602	1
61	10-32×⅝ Fil. Hd. Screw	S-7695	2
62	10-32 Lockwasher	S-269	2
63	Governor Lever Pin (1-C-76505 Governor Lever (as sold))	C-66958	1
64	Governor Lever Button (1-C-76505 Governor Lever (as sold))	C-66054	1
65	Governor Lever	C-76504	1
66	Needle Valve Packing	C-67974	2
67	Needle Valve Packing Cup	C-67975	2
68	Needle Valve	C-63757	2
69	Needle Valve Cap	C-76506	2
70	Motor Housing Cover	C-77190	1
71	⅛" Allen Pipe Plug	C-68064	1
72	¼" Allen Pipe Plug	C-68799	1
73	Motor Housing Cover Gasket	C-77207	1
74	¼"×¾" Allen Socket Hd. Cap Scr.		4

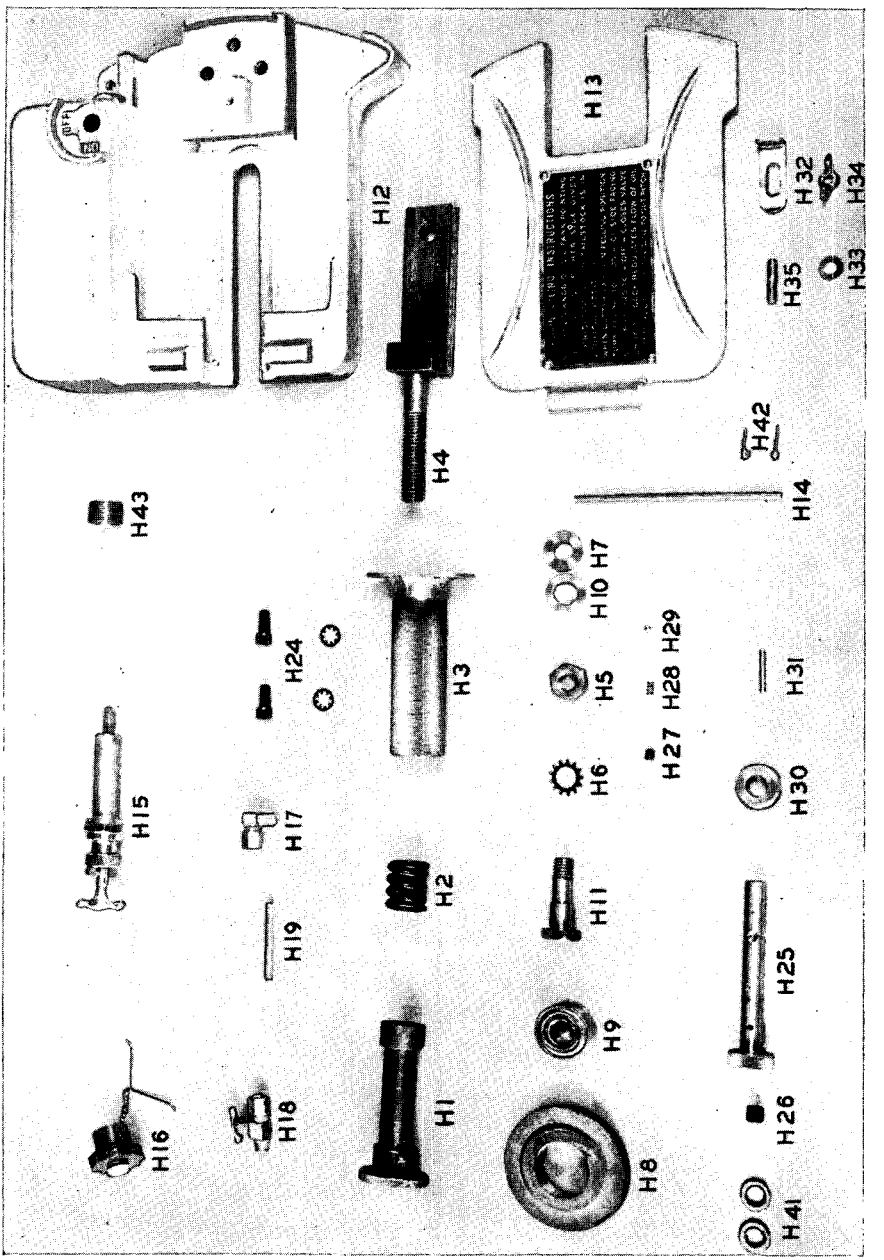

H12
H13
H32
H34
H33
H35
H42
H4
H14
H43
H24
H10 H7
H3
H5
H28 H29
H31
H15
H17
H6
H27
H30
H2
H11
H19
H25
H9
H16
H18
H1
H26
H8
H41

FIG. 14

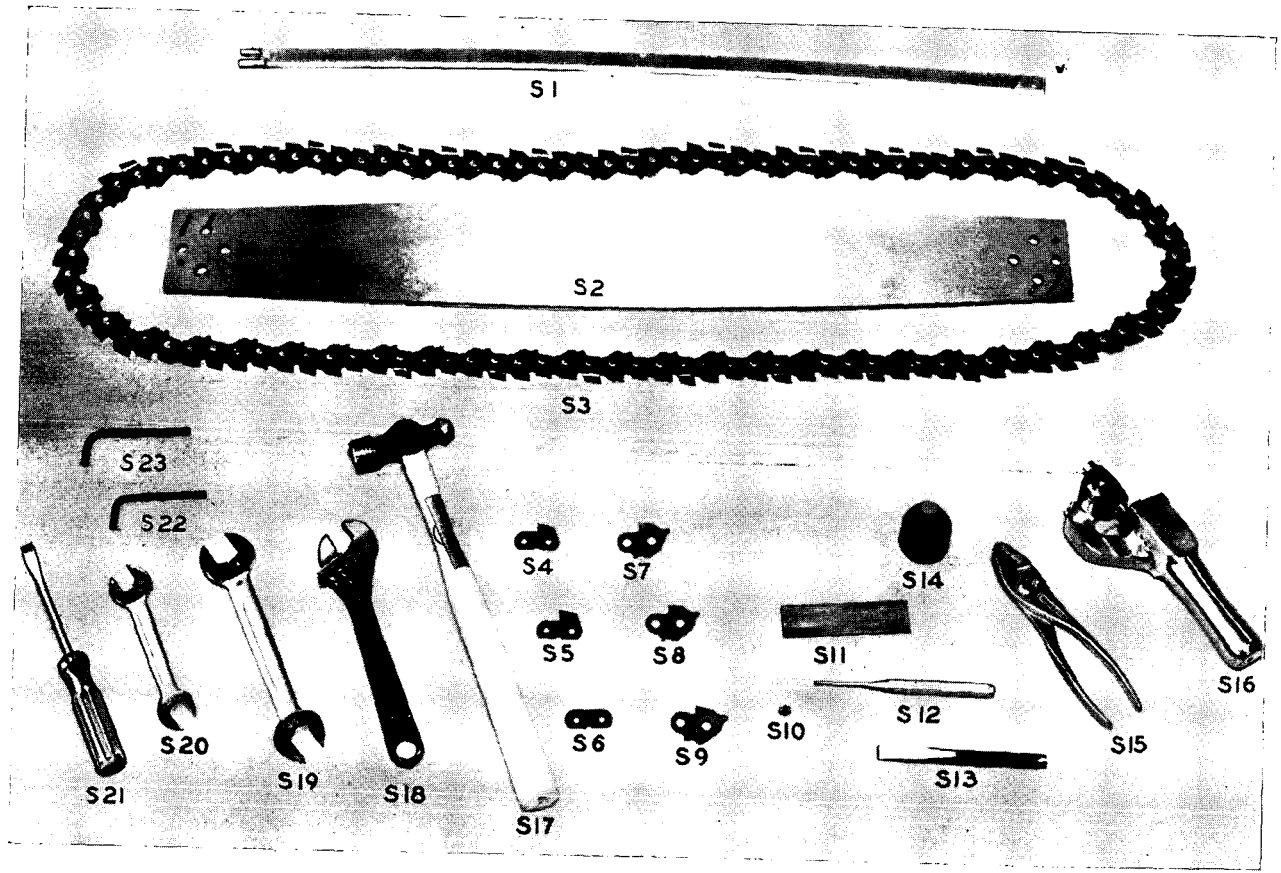
TAILSTOCK PARTS

FIGURE 14

NUMBER	NAME	PART NO.	QUAN. PER MACHINE
H 1	Adjusting Knob	THS-314	1
H 2	Chain Tension Spring	THS-32	1
H 3	Handle	THS-316	1
H 4	Chain Tension Bracket	THS-311	1
H 5	½"—13 Hex Jam Nut		1
H 6	½" Shakeproof Lockwasher	1124	1
H 7	Idler Spacer	THS-319	1
H 8	Idler	THS-317	1
H 9	New Departure Ball Bearing	55502	1
H 10	Idler Stud Washer	THS-320	1
H 11	Idler Stud	THS-318	1
H 12	Tailstock	SA-THS-372-1	1
H 13	Tailstock Door	THS-310	1
H 14	Hinge Pin	THS-322	1
H 15	Air Pump—Clayton & Lambert	#32A Fig. 3756	1
H 16	Tank Cap		1
H 17	Compression Elbow and Nut	"Weatherhead" W69×4 and W61×4	1
H 18	Shut-off Cock	Weatherhead 690	1
H 19	Oil Tube (Copper)	¼" OD × 2⅛" long	1
H 24	Handle Screws and Lockwashers	5/16"×⅝" Std. Fillister Head Shakeproof 1218	2
H 25	3-Way Oiling Stem	THS-370	1
H 26	3-Way Oiling Stem—Allen Pipe Plug	⅛"	1
H 27	Detent for Stem—¼"×¼" Allen Headless Set Screw		1
H 28	Detent for Stem—Spring	2V-330-8	1
H 29	Detent for Stem—Ball	5/16" Round	1
H 30	3-Way Oiling Stem—Oil. Stem Collar	THS-371	1
H 31	3-Way Oiling Stem—Taper Pin	#OX	1
H 32	Door Catch	THS-363	1
H 33	Door Catch Washer	¼" Std. Washer	1
H 34	¼"—20 Wing Nut	Reed-Prince 260	1
H 35	Door Catch Stud		1
H 41	Cork Gasket—3-Way Oiling Stem	THS-397	2
H 42	Cotter Pins		2
H 43	Air Pump Nipple		1

NOT SHOWN

H 20	Cutter Bar Bolts	⅜"-24"×1⅜" H×Hd	3
H 21	Lockwashers	Shakeproof 1120	3
H 22	Hex Nuts	⅜"-24" SAE	3
H 23	Guard Bar Screw and Lockwashers	5/16×⅝ Std. Fillister Head Shakeproof 1218	2


S1
S2
S3
S23
S22
S4
S7
S14
S5
S8
S11
S16
S20
S12
S6
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S15
S21
S19
S18
S13
S17

FIG. 15

CHAIN SAW PARTS AND TOOLS

FIGURE 15

NUMBER	NAME	PART NO.	QUAN. PER MACHINE
S 1	Saw Chain Guard	THS-237	1
S 2	Guide Bar	THS-197	1
S 3	Saw Chain	15-THE-24"	1
S 4	L. H. Tooth	THS-418	26
S 5	R. H. Tooth	THS-417	26
S 6	Plain Link	THS-416	52
S 7	Center Raker	THS-421	17
S 8	R. H. Raker	THS-419	17
S 9	L. H. Raker	THS-420	18
S 10	Rivet	THS-321	104
S 11	Raker Gage	THG-333	1
S 12	6"×1/8" (Dia. at Point) Punch		1
S 13	3/8" Cold Chisel		1
S 14	Rivet Anvil	THG-214	1
S 15	5" Combination Pliers with two-position slip joint		1
S 16	Setting Tool		1
S 17	8-oz. Ball Peen Hammer		1
S 18	8" Adjustable Wrench		1
S 19	9/16"×3/4" Open End Wrenches		1
S 20	1/2"×9/16" Open End Wrenches		1
S 21	8" Insulated Screw Driver		1
S 22	Allen Socket Wrench for 1/4" Screws 3/16" across flats		1
S 23	Allen Socket Wrench for 5/16" Screws—7/32" across flats		1