CRAFCO =

24220
MODEL 200 PAVEMENT CUTTER

MODEL 200 PAVEMENT CUTTER

This manual is furnished with each new CRAFCO PAVEMENT CUTTER. The manual will help your machine operators learn to run the machine properly and understand its mechanical functions for trouble free operation.

Your CRAFCO MODEL 200 is designed to give excellent service and save maintenance expense. However, as with all specially engineered equipment you can get best results at minimum cost if you operate and maintain your machine as instructed in this manual. Manufactured under U.S. Patent Numbers 4,175,788, and 4,204,714, and Canadian Patent Number 1,098,355.

Other Patents Pending.



5/1993

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PAVEMENT CUTTER CRAFCO MODEL 200 LIMITED WARRANTY

CRAFCO, INC. through its authorized distributor, will replace for the original purchaser free of charge any parts found upon examination by the factory at Chandler, Arizona, to be defective in material or workmanship. This warranty is for a period within 60 days of purchase date, but excluded engine/or components, tires, and battery as these items are subject to warranties issued by their manufacturers.

The responsibility of CRAFCO under this warranty is limited to replacement or repair of defective parts at CRAFCO's Chandler, Arizona factory, or at a point designated by it, of such parts as shall appear to CRAFCO, upon inspection at such point, to have been defective in material or workmanship, with expense for transportation to be borne by the original purchaser. The labor covered by this warranty includes only that labor which is required to repair the defective part itself, and not that labor required to gain access to the part.

CRAFCO, INC. shall only be liable when the equipment is used in compliance with those directions specified in the manufacturer's instructions.

The warranty provided herein extends only to the repair and/or replacement of those components of the equipment covered above and does not extend to incidental or consequential damages incurred as a consequence of any defects covered by this warranty.

This warranty shall not apply to any machine or parts altered and modified without CRAFCO's consent, nor shall it apply to normal wear and tear or when misuse, negligence or accident are evident, or when machines have been operated at speeds or loads beyond factory-rated capacities or specifications.

All warranties expressed or implied are void if other than genuine Crafco cutters and pins are used.

CRAFCO, INC. specifically disavows any other representation, warranty, or liability related to the condition or use of the product.

CRAFCO, INC. WARRANTY CLAIM INSTRUCTIONS

Please follow the instructions stated below when calling in a Warranty Claim. Failure to follow these procedures may be cause to void the warranty.

- (1) Call your local Crafco Distributor. If you do not know who your local distributor is, call a Crafco Customer Service Representative, (Toll Free 1-800-528-8242) for name, location and telephone number.
- (2) On contacting the Distributor, be prepared to identify the machine type, model number and serial number, also the date of purchase if available.
- (3) Should the cause of the malfunction be a defective part, the Distributor will advise you of the procedure to follow for a replacement.
- (4) The warranty is valid only for parts which have been supplied or recommended by Crafco, Inc.

If you have any additional questions regarding warranty repairs and parts, please do not hesitate to call toll free 1-800-528-8242.

CRAFCO, INC. 6975 W. CRAFCO WAY CHANDLER, AZ 85226 (602) 276-0406 Toll Free 1-800-528-8242

OPERATING INSTRUCTIONS

INTRODUCTION

The CRAFCO Model 200 Pavement Cutter was designed specifically to widen and clean joints and cracks in asphalt and concrete surfaces. The CRAFCO Model 200 is not intended to be used to clean old sealant from joints or cracks.

CRAFCO, INC. and its Distributors assume no liability for accident or injury incurred through improper use of this machine.

SAFETY PRECAUTIONS

- 1. Eye and ear protective devices are required when operating the CRAFCO Pavement Cutter. A respirator should also be worn if the surface being worked with is dry.
- 2. Care should be taken when operating machine on grades. It is usually best to operate machine going up hill.
- 3. To stop or slow machine, push down on handle. (See page 9 for further details.)
- 4. When cleaning joints near moving traffic, always move in a direction away from traffic to protect the operator.
- 5. Tires should be inflated to 45 psi to allow machine to roll easily.

PREPARING MACHINE FOR OPERATION

DO NOT operate machine without following these instructions:

- 1. Check engine crankcase oil. Refer to Engine Operators Manual.
- 2. Fill engine gas tank with clean, fresh, unleaded gasoline. See Fuel Recommendations in Engine Operators Manual.
- 3. Check tire inflation. Proper tire inflation is 45 psi. Machine will be difficult to roll with under inflated tires.

OPERATING PROCEDURE

TO START ONAN ENGINE:

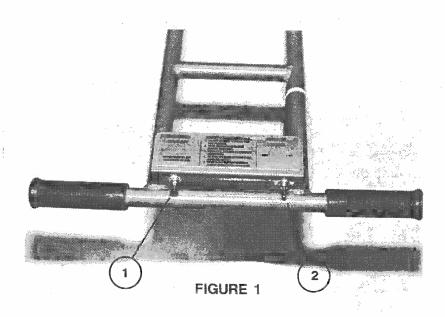
NOTE: It is recommended that you read the Onan Engine Operators Manual before you start Engine.

(Refer to Figure 1, Page 6)

- 1. Pull out emergency stop button [1] to energize system.
- 2. Raise cutter mechanism by moving switch lever [2] with thumb to right.

(Refer to Figure 2, Page 7)

- 1. Place throttle control [2] in the slow position and the choke [1] into the full choke position.
- 2. Turn key switch [3] right, to engage starter. If engine fails to start after 30 seconds, determine cause.
- 3. When engine starts, gradually push the choke in until engine runs smoothly.
- 4. Black smoke from the exhaust and a rough running engine usually indicate over-choking.



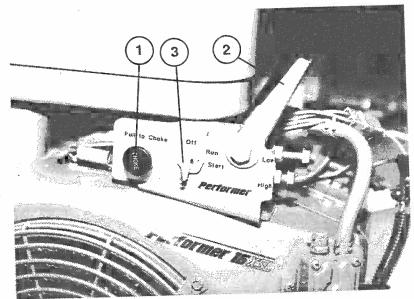


FIGURE 2

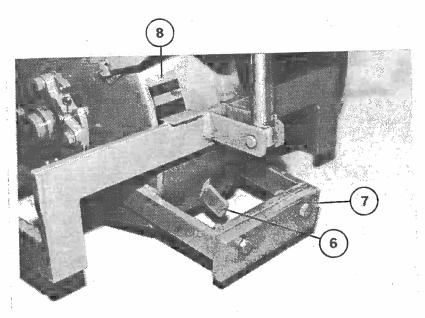


FIGURE 3

TO CLEAN JOINTS AND CRACKS

- 1. Open throttle for maximum engine speed. Position machine over joint and line up pointer [6] (Figure 3, Page 7) with joint. Machine is designed to travel in a direction towards the operator. The stabilizer mechanism [7] is designed to stabilize the machine and to act as a brake. The Model 200 has a tendency to self-propel itself when cutting. To slow or stop machine push down on the handle. Refer to Page 9 for a more detailed explanation.
- 2. Lower cutter head until cutters slightly touch the surface. Notice color on the depth indicator [8] (Figure 3). To cut 3/4 inch depth, lower cutter until same color appears on depth indicator. Each color represents 1/4 inch depth variation.
- 3. Do not try to go to fast. Do not overload the engine. Overloading the engine will slow cutting action and cause damage to engine and drive components. A bouncing or hammering action usually indicates the machine is moving too fast or the cutters have worn out of round (refer to Troubleshooting Section). Let machine thoroughly clean joint. For deep cuts (deeper than 3/4 inch) it may be necessary to make two passes. Tightly compacted surfaces will cause machine to push toward operator. Use brake as required to keep machine under complete operator control. For emergency stop, push down firmly on handle.
- 4. As cutters wear depth of cut will change, to compensate for cutter wear, repeat step #2 as often as necessary to reset depth.
- 5. When cutters will no longer cut to desired depth, they must be replaced. Refer to cutter changing section on Page 11.
- 6. Throttle and governor are factory set for the most efficient cutting action. Increasing engine speed may hinder cutter action and also void warranty. Proper engine speed is 3600 rpm.

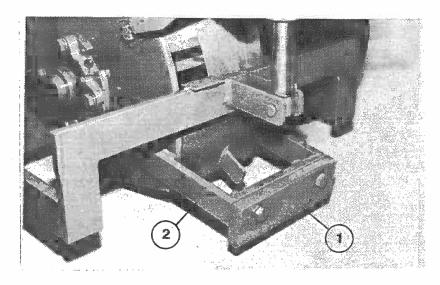


FIGURE 4

STABILIZER MECHANISM & ACTUATOR STOPS

A stabilizer mechanism is used on the CRAFCO Pavement Cutter to improve the stability of the machine and to act as a brake. TO SLOW OR STOP THE MACHINE, SIMPLY PUSH DOWN ON THE HANDLE. For normal operation, let wear plate [1] drag on paved surface while machine is in operation. (Figure 4).

Wear plate [1] (Part No. 31065) should be replaced before wear reaches the attaching bar [2].

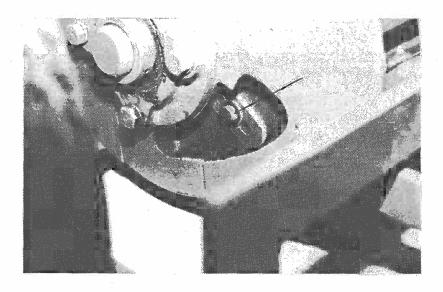


FIGURE 5

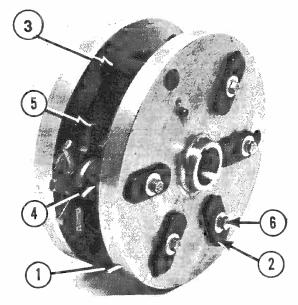


FIGURE 6

ITEM	PART NO.	DESCRIPTION	QUANTITY
1	31032	Cutter Head	1
2	31120	Retainer	6
3	31114	Pin	6
4	32093	Spacer	60 (10 per shaft)
5	31134	Cutter 4.75 dia.	6
	or		
	31136	•	
6	32039	Bolt LO9	6

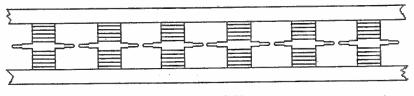


FIGURE 7

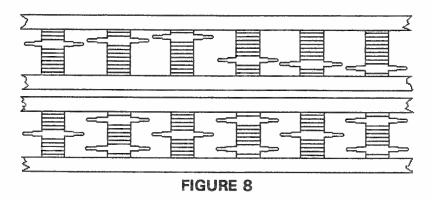
CHANGING CUTTERS

To clean joints of up to 3/4 inches wide, assemble cutters and other components as shown in Figure 7. For cleaning greater widths, refer to Page 12 The procedure outlined below will greatly simplify cutter changing.

- 1. Raise cutter mechanism to maximum height. Push machine forward while holding handle up. This will allow rock deflector to fold up and machine to tilt forward exposing cutters for easy accessibility.
- Place wrench supplied with machine on exposed bolt in cutter window. See Figure
 Turn clockwise to rotate cutter head to end of cutter window. This will rotate cutter head for proper indexing. Do not attempt to turn cutter head with hands.
- 3. Remove wrench and place on bolt just exposed. Loosen bolt at least one full turn. Slide retainer back exposing pin. Refer to Figure 6.
- 4. Using pin removal tool (also supplied with machine) push pin through from opposite side. Note It is not necessary to push pin all the way out, except when changing pins. Remove worn cutters and/or worn pins. Pins should be replaced when worn in any area to a diameter less than 3/4 inch. Use pin as a pilot to mount spacers and cutters.
- 5. Slide retainer back into position and tighten bolt. **CAUTION:** It is most important that retainer is always put back in locking position. As bolt is tightened, flywheel will rotate clockwise exposing next cutter.
- 6. Repeat steps 3, 4 and 5 for other five cutter positions.

ALTERNATE CUTTER POSITIONING

For wider cracks it may be necessary to rearrange or to stagger the cutters for best results. Several different patterns are possible. The patterns shown below (Figure 8) will clean out cracks up to 2 inches wide. The main consideration in cutter arrangement is placing equal number of cutters and spacers on opposite pins to maintain balance. Failure to do so could result in permanent damage to the machine and possible injury to the operator.



SETTING DEPTH STOP

Depth stop [1] should be set so cutter housing [2] just clears the pavement at maximum cutter depth. An improper setting may cause damage to cutter housing and rotating cutter head.

Refer to Figure 10. The upper axle mounting hole should be used when small (4-3/4" Diameter) cutters are used. The lower axle mounting hole is for use with the 6-1/2" cutters.

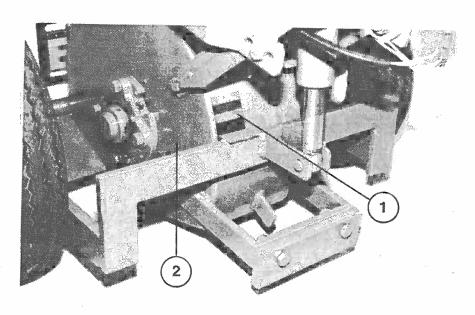


FIGURE 10

STORING MACHINE

DO NOT rest weight of machine on rubber rock deflector when changing cutters or rubber will become deformed making deflector unfunctional. Store with engine in a near level position. See Figure 9.

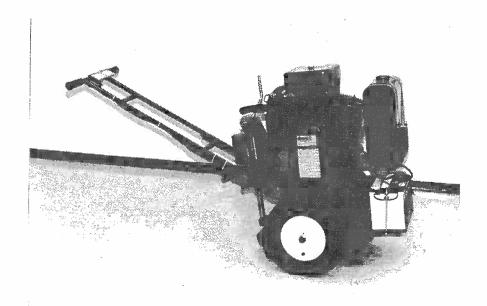
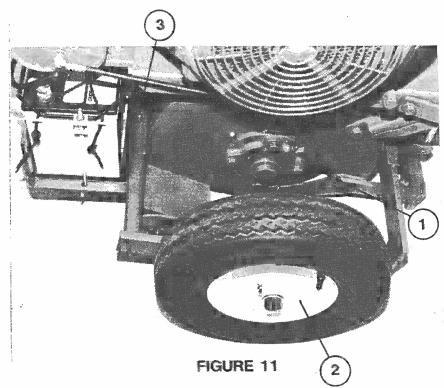


FIGURE 9

SERVICE AND MAINTENANCE INSTRUCTIONS

- 1. For longer engine life the Model 200 has been fitted with a High Capacity Air Cleaner. Air cleaner should be serviced every 25 hours or sooner in extremely dusty conditions, such as when cutting concrete. Thorough cleaning of element with air is recommended. But be careful, too much pressure can break the filter paper and destroy the element. Rapping, tapping or pounding dust from element is dangerous and should be avoided. Carefully check element for damage before reinstallation. The air cleaner wrapper should be washed in water and detergent and squeezed dry like a sponge. Allow to dry, then coat evenly with 2 tablespoons (28 grams) of SAE 30 Engine Oil. Knead into and wring out excess oil from wrapper. Reinstall over air cleaner element. Failure to adequately wring out excess oil from wrapper may cause drop in engine horsepower due to an increased restriction of inlet air.
- 2. Check engine oil daily. Change oil after every 25 hours of operation. Change oil filter every 50 hours. (Refer to engine operators manual).
- 3. Check fluid level in battery regularly if not maintenance free.
- 4. Every 50 hours of operation remove sheet metal shroud from engine and clean out cooling fins on engine. If dust is allowed to accumulate overheating may occur, causing damage to the engine.
- 5. Lubricate cutter bearings [1] every 100 hours using multi-purpose grease. See Figure 11.
- 6. Lubricate wheels [2] every 100 hours using multi-purpose grease.
- 7. Lubricate frame pivot [3] every 50 hours using multi-purpose grease.
- 8. Tighten all bolts on machine frequently.
- 9. After 2 hours of operation check and tighten the V-belts as required. To tighten belts, adjust jam nuts under engine mount. Refer to Figure 12. **CAUTION:** Do not overtighten belts as damage will occur to belts and bearings. Belts that are too loose will shorten the life of the belts and sheaves. Re-check belt tension after eight hours and every 40 hours thereafter. When installing new belts do not attempt to stretch over sheaves. When replacing V-belts always use a "matched set".
- 10. Clean machine after each days use using compressed air or by wiping with rags, especially in area of engine cooling fins.
- 11. Always use genuine Crafco cutters and replacement parts.



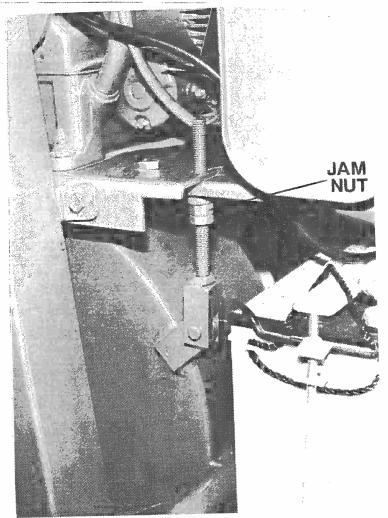


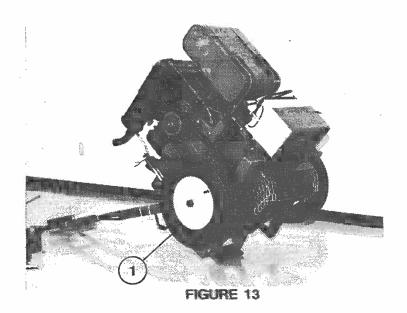
FIGURE 12

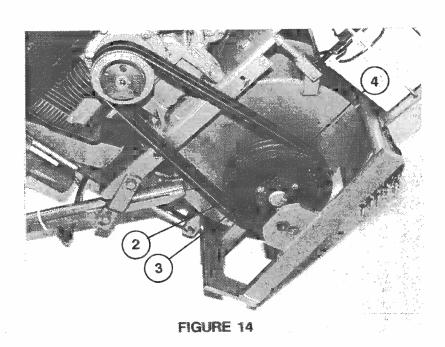
CHANGING CUTTER HEADS

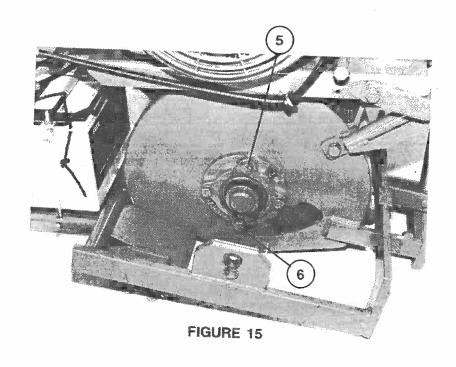
It is recommended that the cutter head be changed when holes for pins are worn to 1.000 diameter or larger.

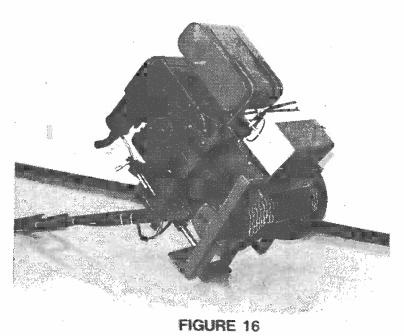
REMOVING OLD CUTTER HEAD AND MAIN SHAFT

- 1. Remove belt guard.
- 2. Back off belt tension adjusting bolt jam nuts all the way and remove the V-belts.
- 3. Tip machine back lowering handle all the way to ground. (See Figure 13.)
- 4. Remove wheels [1].
- 5. Remove lower sheave (See Figure 14). The sheave [2] has a built in puller. Loosen and remove the three mounting cap screws [3]. Insert these same cap screws in the threaded jack-screw holes. Starting with the screw farthest from the bushing saw slot; tighten all screws alternately and progressively to separate sheave from bushing.
- 6. Drive a wedge into slot [4] of bushing, barely enough to free the bushing and slide bushing off shaft.
- 7. Lift handle to set machine flat on ground, (see Figure 15) then remove top three cap screws [5] in each of the two main shaft bearings. It is not necessary to remove bottom cap screw [6] in each bearing but leave it intact.
- 8. Push handle down all the way to the ground again (see Figure 16). This will lift front of machine free of cutter head assembly and complete assembly can be rolled out to clear machine.









INSTALLING NEW CUTTER HEAD AND MAIN SHAFT

The cutter head and main shaft are sold in matched sets and must be installed together.

- 1. Slip the bearings on to the main shaft in the new cutter head.
- 2. Push the handle down all the way to the ground to raise the front of machine.
- 3. Roll new cutter head assembly under machine and into position.
- 4. Line up bearings with cutout sections in the flywheel housing, fitting each into its slot as machine is lowered over flywheel.
- 5. Reinstall three cap screws that attach bearings to flywheel housing.
- 6. Center cutter head in housing and move main shaft so that it is flush with bearing on side opposite sheaves.
- 7. Replace locking ring mechanism on each bearing. (or 7A.)
- 7A. If bearings do not use a locking ring, follow this procedure: Using 1/4" electric drill and 13/64" drill bit, make dimple in shaft under one or more set screws. Remove two set screws on each bearing and coat with a thread adhesive such as locktite. Replace set screws and tighten until snug.
- 8. Reinstall hub and lower sheave. Be sure the sheaves are in alignment using straight edge.
- 9. Tighten cap screws that pull the sheave onto bushing alternately and progressively until tapers are seated. Check alignment and sheave runout or wobble and correct as necessary before tightening cap screws to recommended torque value of 9 ft. lbs. each.
- 10. Reinstall wheel and tire assemblies.
- 11. Install V-belts and tighten tension using the jam nuts underneath motor mount. Correct belt tension is 1/4" deflection per belt when 10 lbs. pressure is applied.
- 12. Install belt guard.
- 13. Install cutters, shafts and spacers as outlined in cutter installation section, Page 11.

PROBLEM	CAUSE	REMEDY
Cutters wear out of round.	Cutters not spinning on pins thereby creating uneven wear.	Take deeper cut. Work machine harder causing cutters to spin on pins.
Engine stalls.	No Spark	Clean or replace points;
		Check electric system for defective wires, switches, etc.
	Inadequate supply of fuel to carburetor.	Check fuel pump, fuel valve and lines.
Machine fails to raise or	Damaged switch, wiring, or fuse.	Replace defective components.
lower.	Defective or worn linear actuator.	Replace linear actuator.
Engine doesn't spin properly when cranking.	Starter problems.	Repair or replace starter.
Engine missing, loss of	Dirty points.	Clean or replace points.
power.	Dirty carburetor.	Clean carburetor.
	Defective fuel pump.	Replace fuel pump.

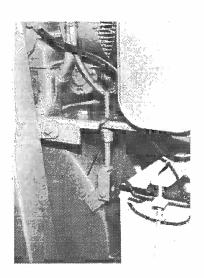


FIGURE 17

CHANGING V-BELTS

- 1. Remove belt guard by removing 4 bolts.
- 2. Loosen belt tensioner until bottomed out. See Figure 17.
- 3. Remove old belts. Install new belts.
- 4. Tighten belt tensioner as instructed on Page 20 (step #11).

MAINTENANCE

CRANK CASE OIL

OIL LEVEL:

Check oil level at least every 8 hours of operation. Check more frequently on a new or reconditioned engine as oil consumption is higher until the piston rings seat properly.

OIL CHANGE:

Change crankcase oil after the first 25 hours of operation, change every 50 hours after that. If operating in extremely dusty conditions, change oil more frequently.

OIL FILTER:

Change the oil filter every 100 hours.

BATTERY

Check charge condition. Check electrolyte level. Add distilled water to keep electrolyte at its proper level. In freezing weather, run engine immediately after adding water. Keep battery connections tight and clean.

Epoxy Plated Deep Cycle Battery is recommended.

SEE MAINTENANCE SECTION IN ENGINE OPERATORS MANUAL FOR ROUTINE SERVICING PROCEDURES.

PAVEMENT CUTTER POWERED BY ONAN SPECIFICATIONS

ENGINE:	2 Cylinder opposed, 20 HP 2 Cylinder opposed, 24 HP
WEIGHT:	425 #
FUEL:	Unleaded Gasoline
FUEL TANK CAPACITY:	3-3/4 Gallons
MAXIMUM DEPTH OF CUT:	1-5/8"
DEPTH:	Depth gauge for precise depth control.
SAFETY FEATURES:	Braking system and safety guards for increased safety.
DEPTH CONTROL:	Electric actuator for fingertip depth control.
CUTTER DESIGN:	6 radially located sprocket shaped cutters on 12" diameter cutter head.
CUTTERS:	Hardened alloy steel or carbide tipped.
CRACK CLEANING RATE:	Up to 1500 L.F. per hour.

PERIODIC MAINTENANCE SCHEDULE

Follow a regular schedule of inspection and servicing, based on operating hours. Keep an accurate logbook of maintenance, servicing, and operating time. Use the factory recommended Periodic Maintenance Schedule (based on favorable operating conditions) to serve as a guide to get long and efficient engine life. Regular service and operating conditions. For severe duty, extreme temperature, etc., service more frequently. Neglecting routine maintenance can result in engine failure or permanent damage.

For any abnormalities in operation, unusual noises from the engine or accessories, loss of power, overheating, etc., contact your nearest Onan Service Center.

- x^1 Check for fuel leaks. With engine running, visually and audibly check exhaust system for leaks.
- x^2 Perform more often when running under severe operating conditions.
- x^3 Required after initial break-in only.
- x⁴ For detailed maintenance, contact an Onan Service Center or refer to the SERVICE MANUAL.
- x⁵ Clean carbon more frequently when running under continuous light load and/or on leaded fuel. Use of Onan 4C carburetor and combustion cleaner is recommended every 200 hours to help reduce carbon buildup.

WARNING: Inhalation of exhaust gases can result in serious personal injury or death. DO NOT use the air cleaner or exhaust elbow as a supporting step. Damage to these and connecting parts might cause an exhaust leak.

PERIODIC MAINTENANCE SCHEDULE CHART

SERVICE THESE ITEMS		AFTER	EACH C	AFTER EACH CYCLE OF INDICATED HOURS	NDICATE	HOURS	
	∞	25	50	100	200	500	1000
Inspect Engine Generally	×1						
Check Oil Level	×						
Service Air Cleaner		X ²					
Change Crankcase Oil		×2					
(all engines without filter)							
Change Crankcase Oil		×ω	X ₂				
(standard base with filter)							
Change Crankcase Oil		×ω		X ₂			
(high capacity base with filter)							
Check Battery Electrolyte Level			×				
Clean Cooling Fins			X2				
Replace Oil Filter		×3		XZ			
Check or Replace Spark Plugs						×	3
Clean Breather Valve							××
· Replace Air Cleaner Element					X		
Check Valve Clearance (standard engines)					× ⁴		
Check Valve Clearance						× ₄	
(LP and natural gas conversion engines)							
Check Valve Clearance			3				× ₄
(extended service life engines)							
Clean Carbon and Lead Deposits							×5.
(cylinder head)							

PARTS LIST

1750		QTY. PER	PART
ITEM	DESCRIPTION	UNIT	NO.
NO.			
	* Parts Serviced By Onan Distributor		
	LIGH CI F	1	32176
1	A/C Pre-Cleaner Foam	1	32177
2	A/C Element	2	22099
3	Mufler Clamp (16 HP & 20 HP)	1	32178
4	Exhaust Bend w/ Clamp (16 HP & 20 HP)	1	32179
	Exhaust Bend w/ Clamp (24 HP)	1	22009
5	Muffler (16 HP & 20 HP)		22017
	Muffler (24 HP)	2	22184
	Exhaust Gasket (24 HP)	$\frac{2}{1}$	32180
	Muffler Support (24 HP)	1	32122
6	Oil Filter	1	32012
7	16 H.P. Onan Engine		32013
	20 H.P. Onan Engine	1	32014
	24 H.P. Onan Engine	1 1	28716
8	5/16-18 x 1.00 LG. Bolt	+ 1	28646
9	5/16 Lock Washer	1	31018
10	Upper Tank Support (16 HP & 20 HP)	1	31016
	Upper Tank Support (24 HP)	1 1	32087
11	Gasoline Tank Kit	1	32120
12	Fuel Line	1	32118
13	Fuel Valve		31100
14	Pin Removal Tool		31101
15	Wrench	1 1	31106
16	Safety Precaution Plate		32513
17	Toggle Switch, Actuator	1 1	32533
18	Master Switch		31060
19	Handle Assembly	1 2	31210
20	Handle Bracket		32081
21	Hand Grip	2	32068
22	Sheave 2G5V 4.65 Dia.	1	32079
23	Bushing 1-1/8 SDS	1	
24	V-Belt (20 HP)	2	32078
24A	V-Belt - (24 HP)	2	32077
25	Spacer 7/8 LG.	3	31211
26	3/8 Lock Washer	2	28647
27	3/8-16 x 1.00 LG. Bolt	2	28735 26160
28	Name Plate	1	
29	General Instruction Plate	1	31108
30	Belt Guard Assembly (16 HP & 20 HP)	1	31112
	Belt Guard Assembly (24 HP)	1	31111
31	7/16-14 x 4.5 Long Bolt	1	28756
32	7/16-14 x ESNA Type Lock Nut	11	28527
33	Engine Mount Assembly	11	31202
34	Shock Absorber	1	31068
35	Rubber Bushing Modified	2	32110

	,	QTY.	
		PER	PART
ITEM		1	
NO.	DESCRIPTION	UNIT	NO.
36	1/2-13 x 2.00 Long Bolt	1	28763
37	1/2-13 Jam Nut	2	28516
38	Actuator	1	32001
39	1/2 x 2.00 Long Clevis pin	1	29345
40	1/2 x 1.00 Long Cotter Pin	2	29638
41	Key, 3/8 x 4.0	1	31072
42	Key, 3/8 x 1-5/8	1	31071
43	Bearing 1-3/4	1	32043
44	Sheave 2G5V 9.25 Dia. (16 HP & 20 HP)	11	32072
	Sheave 2G5V 8.5 Dia. (24 HP)	1	32075
45	Bushing 1-3/4 SK	11	32071
46	Spacer	60	32093
47	Cutter 4.75 Dia. (Standard)	6	31134
	Cutter 4.75 Dia. Carbide Tipped	6	31136
	Cutter 6.50 Dia. Carbide Tipped	3	31138
48	Cutter Head	1	31032
49	Pin	6	31114
50	Roll Pin 3/8 x 3/4	6	32061
51	Retainer	6	31120
52	3/8 Flat Washer	6	28634
53	3/8-16 x .75 Long Bolt	6	32039
54	1/2-13 x .50 Long Socket Set Screw	2	28978
55	Battery Cable 12"	1 .	24010
56	Battery Cable 20"	1	32602
57	Battery Hold Down Frame	1	24005
58	1/2-13 Hex. Nut	2	28504
59	3/8 x 1.25 Long Clevis Pin	1	29480
60	Frame And Housing Assembly	1	31207
61	Stabilizer Wear Plate	1	31065
62	1/2-13 x 2.00 Long Bolt	2	28764
63	Clevis Assembly	1	31052
64	Modified Fuel Tank Strap	2	32086
65	Tank Bracket - Left	1	31095
66	Tank Bracket - Right	1	31096
67	5/16-18 ESNA Type Lock Nut	2	28525
68	Battery - 12v	1	32547
69	Battery Cushion - Large	1	31045
70	Deflector Chain Assembly 1	1	31104
71	Rock Deflector	1	31102
72	Hook Bolts 11.5 Long	2	32030
73	3/4-16 Jam Nut	4	28578
74	3/4 SAE Flat Washer	4	28677
75	16.6 x 4.80 Tire & Wheel Assembly	2	32057
76	3/4-16 x 6.00 Long Bolt	2	28949
77	Fuel Pump	1	32181
78	Main Shaft	1	31073
79	Tank Pad	2	31057

