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Avery

Operator's and Parts Manual

V

with Attachments

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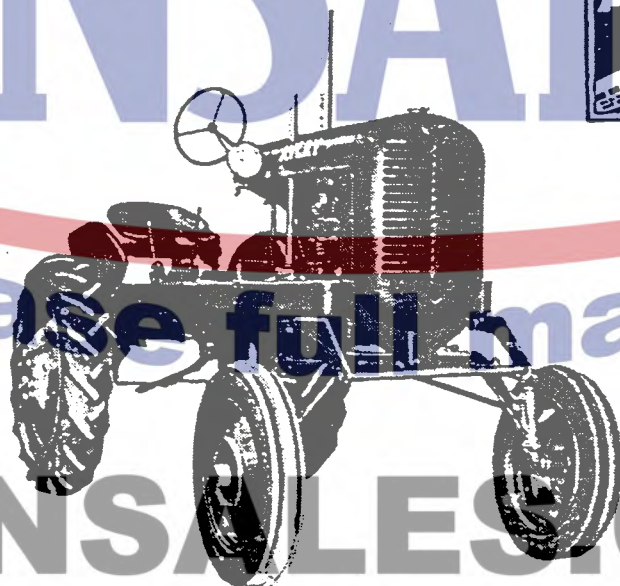
AV-OP-V+ATT

Operator's and Parts Manual

OWNER'S GUIDE

INSTALLATION . OPERATION . MAINTENANCE . REPAIR PARTS

AVERY MODEL V TRACTOR



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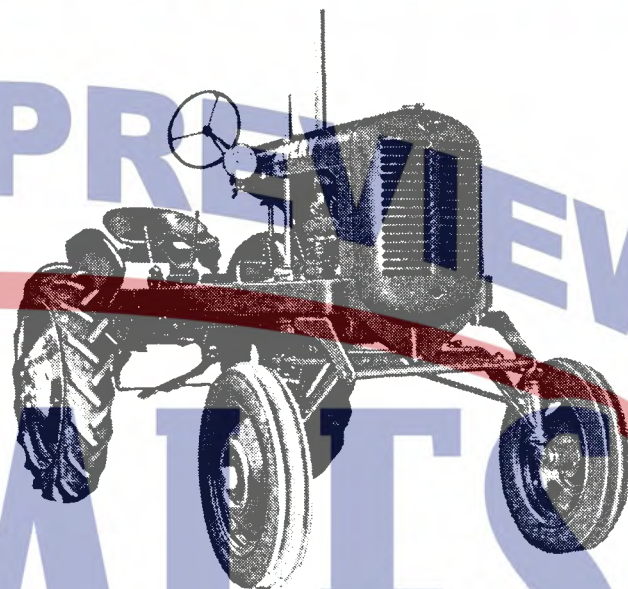
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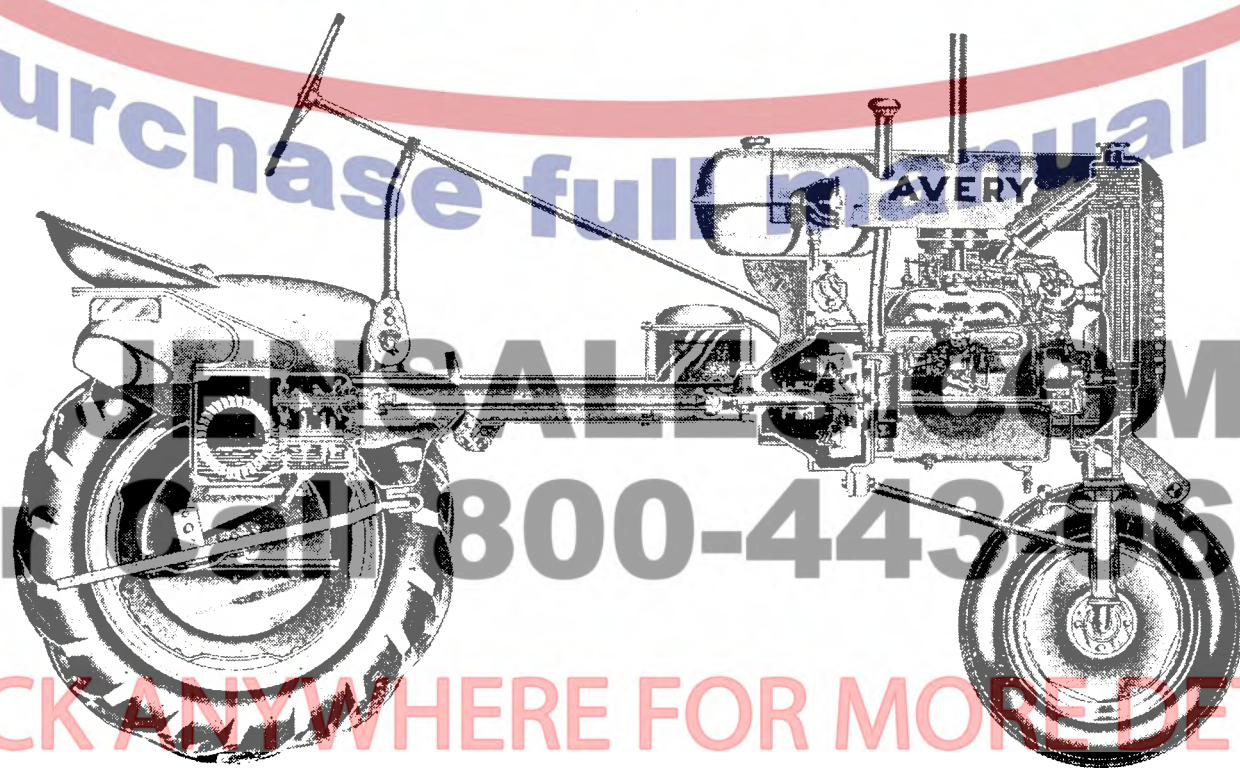
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Air Cleaner: Vortox.
Battery: Delco-Remy.
Brakes: Operated by foot.
Carburetor: Tillotson, $\frac{5}{8}$ -in.
Clutch: Rockford, single plate, dry disc.
Generator: Delco-Remy.
Governor: Handy, flyball.
Ignition: Delco-Remy.
Lamps:
Oil Filter: Fram.
Radiator: McCord, fin and rudder.
Radiator Cover: None.
Spark Plugs: Champion H-10.
Starting: Delco-Remy.
Data: H.P.—Neb. Test No. (not tested).
Number of plows recommended: One 14 in.
Engine: Hercules "ZBX"; $2\frac{5}{8} \times 3$, 1,800
r.p.m., 4 cylinders, L-head, cast en bloc,
piston displacement 64.9 cu. in.; remov-
able sleeves, no.
Pulley: $6 \times 5\frac{1}{2}$, 540 r.p.m. and 3,100 f.p.m. at
normal engine speed.
Speeds: M.P.H. forward 2.74, 3.60, 7.33, and
3.22 reverse.



B. F. AVERY "V"

B. F. Avery & Sons Co., Louisville, Ky. ®



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OPERATING INSTRUCTIONS FOR B. F. AVERY MODEL "V" TRACTOR

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DON'T TAKE UNNECESSARY RISKS—BUY GENUINE AVERY REPLACEMENT PARTS.

All are made from the original patterns, insure perfect fit and maintain AVERY QUALITY.

SPECIFICATIONS STANDARD MODEL "V"

Number of Cylinders	4
Bore and Stroke	2 $\frac{5}{8}$ " x 3"
R. P. M. (Governed) {	Field1800
	Belt1800
Idling Speed	500 to 600 R.P.M.
Main Bearings	3
Camshaft Bearings	4
Ignition	Battery
Starting	Electric & Manual
Clutch	8" Single Plate
Fan Diameter	13"
Oil Filter	Fram (Replaceable Element)
Air Cleaner	Vortex Oil Bath
Carburetor	$\frac{5}{8}$ " Tillotson YC-6A
Governor	Fly Ball (Throttling)
Fuel	Gasoline
Steering	Cam & Lever
Cooling System (Type)	Thermo-Syphon
Cooling System (Capacity)	6 Qts.

Fuel Tank (Capacity)	7 Gal.
Crankcase (Capacity)	3 Qts.
Number of Wheels	4
Tire Size Front	4.00 x 15
Tire Size Rear	8-24
Wheel Base	74"
Overall Length	105"
Height to top of Radiator	51 $\frac{1}{2}$ "
Overall Height	61 $\frac{1}{4}$ "
Overall Width	51"
Tread	40"
Cultivating Clearance	23"
Shipping Wt. (Approx.)	1612 lbs.
Drawbar Height	11 $\frac{1}{2}$ ", 13 $\frac{5}{8}$ ", 15 $\frac{5}{8}$ "
Drawbar Lateral Movement	24"
Transmission & Differential Case	
(CAP.)	5 Pts. (3 Qts. w/P.T.O.)
Final Drive (Capacity)	3 Pts. (each)
Minimum Turning Radius	9'

TRACTOR SPEED AT GOVERNED ENGINE SPEED

	7-24 tire
First Gear	2.62
Second Gear	3.46
Third Gear	7.04
Reverse	3.09

	8-24 tire
First Gear	2.74
Second Gear	3.60
Third Gear	7.33
Reverse	3.22

EXTRA EQUIPMENT SPECIFICATIONS

Belt Pulley Diameter	6"
Width of Face	5 $\frac{1}{2}$ "
Pulley Speed (R.P.M.)	1990
Belt Speed (F.P.M.)	3100

Operating Speed P.T.O. (R.P.M.)	540
Power Take-off Connection {	Size1 $\frac{1}{8}$ "
	Type6 Spline
Wheel Weights	150 Lbs. (Each)



7. ENGINE OIL FILTER

1. The oil filter is a non-cleanable cartridge type and its life depends upon the mechanical condition of the engine, the quality of the oil used and the general operating conditions.
2. *Care:* At every 250 hours or oftener, the cartridge should be replaced.
3. When replacing cartridge be sure gaskets are in good condition and after starting engine check for leaks.

Figures at left show: 1. Cover Assy. 2. Drain Plug
3. Body Assy. 4. Cartridge 5. Stem Gasket
6. Cap Screw 7. Cap Screw Gasket

8. OIL PRESSURE GAUGE

1. The oil pressure gauge *does not* indicate the *amount* or *condition* of oil in crankcase. It only indicates whether or not the pump is working. As soon as engine starts, observe gauge. If it fails to register, stop engine at once and determine cause.
2. When engine is hot, pressure should be 15 lbs. at governed speed and not less than 5 lbs. at idle speed.

9. OIL PRESSURE ADJUSTMENT

1. Oil pressure adjustment is located on engine block near front, beneath lower radiator hose.
2. To change oil pressure, remove acorn cap nut from regulator screw, and after loosening lock nut, turn slotted screw *in* to *increase* pressure and *out* to *decrease* pressure. When correct pressure is obtained tighten lock nut and replace cap nut.
3. It is not advisable to change adjusting nut until the cause for the decrease or increase in pressure has been determined or when decreased pressure is caused by worn bearings.

10. OIL PUMP

1. Oil is supplied to the crankshaft, connecting rod bearings, camshaft gear and crankshaft gear under pressure by a gear-driven oil pump.

11. AIR CLEANER

1. At the beginning of each day's operation and at frequent intervals, depending upon dust conditions, remove oil cup. Remove baffle in cup and wash thoroughly in gasoline and refill to oil level mark with light (SAE 20-W) clean engine oil.
2. Twice each year, depending upon dust conditions, remove entire cleaner and wash thoroughly in gasoline. In extreme dusty conditions clean air cleaner assembly every 100 working hours. Keep all connections between air cleaner and carburetor tight.
3. When servicing air cleaner, make sure the cleaner intake stack is not obstructed with trash or other foreign matter.
4. Proper servicing of the air cleaner means longer life for the tractor engine.

12. FAN

1. LUBRICATION: Oil the fan bearing only, using the same weight oil as used in the engine. (See Sec. 6). Twice a year remove the screw plug in the fan hub. Turn the hub until plug hole is half way between top and bottom and add oil until hub is half full. CAUTION: If too much oil is put in fan hub the centrifugal force will cause the seals to leak. Once this happens it is impossible to keep oil in hub and consequently bearing will burn out.
2. Adjust tension on fan belt by loosening generator adjusting strap and moving generator. Belt tension is correct when belt can be pushed in approximately $\frac{3}{4}$ ". CAUTION: If fan belt is too tight, excessive wear in fan bearing and pulley will result; while if too loose, belt will slip and cause engine to overheat.



1. Screw Plug 2. Slack in Belt

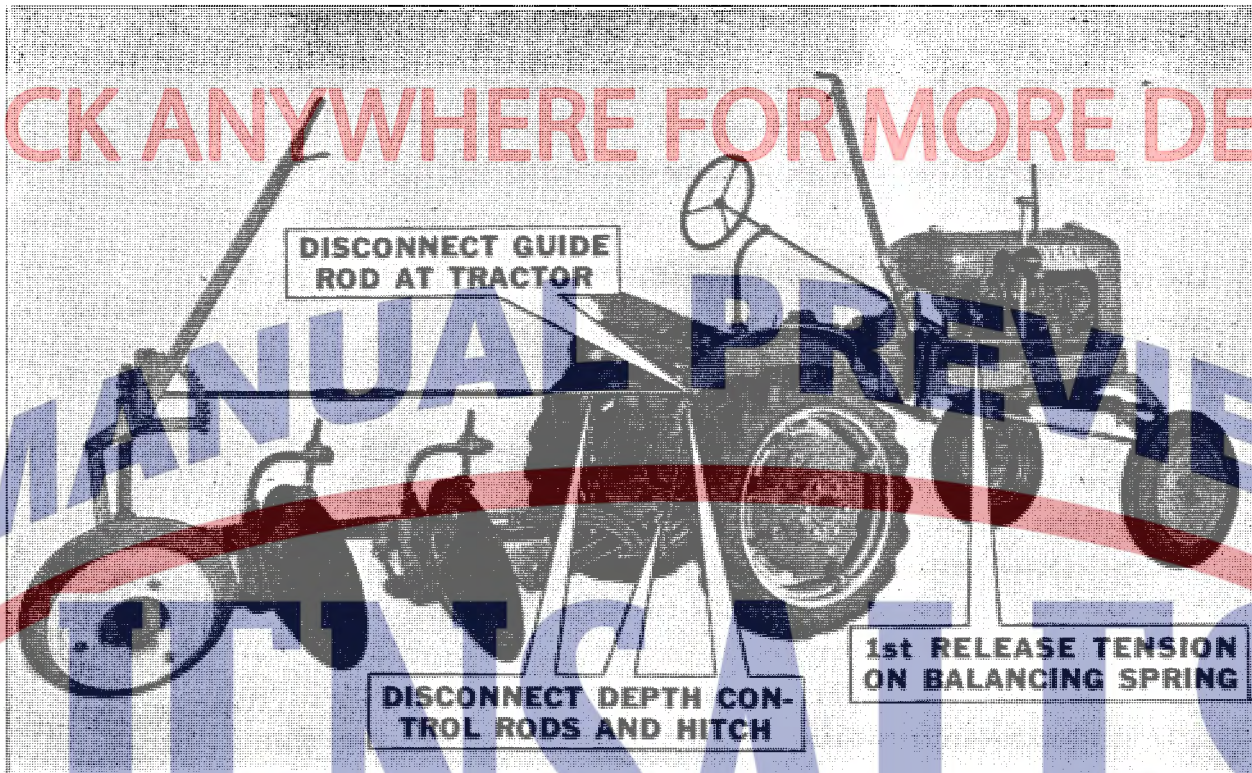
13. CARBURETOR

1. ADJUSTMENT—HIGH SPEED: Turn high speed needle in bottom of carburetor *in* until lightly seated then backout $1\frac{1}{4}$ turns. Start engine and let it warm up to operating temperature. With throttle wide open, turn high speed needle in slowly until engine speed slows down; then back out just enough so that engine runs smoothly at highest speed. This adjustment will be approximately $1\frac{1}{2}$ turns open.
2. ADJUSTMENT—IDLE: Close throttle and adjust low speed adjusting needle for smooth idling, then recheck high speed adjustment. Set stop screw so engine idles smoothly.



1. High Speed Needle 2. Low Speed Needle
3. Stop Screw 4. Choke

TO REMOVE PLOW FROM TRACTOR



SERVICE PARTS LIST—AVERY TRU-DRAFT TWO FURROW DISC PLOW

Part Number	NAME OR DESCRIPTION	Plate	Material	No. of Parts Used	Approx. Weight Each	
					Lb.	Oz.
310032	Hitch Head; Replaces CT149; interchangeable	*	S	1		
310046	Steering Arm; Replaces ER-1364X; interchangeable	*	S	1		
310048	Hitch Pin Complete	*	A	1		
310049	Hitch Pin	*	S	1		
310050	Latch Plate	*	S	1		
310051	Latch	*	S	1		
A6138X	O. H. Rivet $\frac{1}{8}$ " x $1\frac{3}{8}$ " Drilled, in Lifting Rod ER1337X and in Lifting Bail Arms	1	R	2		2
AR654	Inside Bearing Plate (Replaces CTR435; interchangeable)	*	S	1	3	6
C5055	Lever Pawl Springs	1	S	2		2
CT30	Outer Bushing on Lifting Shaft	1	C	2		4
CT53X	Set Collar with Set Screw on Lifting Shaft	1	C	1		8
CT148	Beam Spacer	*	C	1	2	11
CT149	Hitch Head; Replaced by 310032 interchangeable	1	CS	1	4	6
CT158	Rear Axle Bearing	1	C	1	38	7
CTR406X	O. H. Rivet $\frac{1}{2}$ " x $1\frac{1}{2}$ " Drilled; in Clevis CT135, Lifting and Depth Control Arm CTR1310X, Lifting Bail Arm — Long CTR1308X and Lifting Bail Arm — Short CTR1309X	1	R	4		4
CTR410X	Machine Bolt $\frac{1}{8}$ " x $1\frac{1}{2}$ " Drilled, in Lifting Spring Links CTR610-11 and Crank CTR609	1	B	1		2
CTR413	Tail Nuts	1	S	3		6
CTR425	Lifting Lever Quadrant with Rivets Welded (Replaced by ERA1398A; interchangeable)	1	A	1	7	10
CTR435	Inside Bearing Plate with Rivets Welded (Replaced by AR654; interchangeable)	*	A	1	3	12
CTR609	Lifting Spring Crank	1	S	1	1	6
CTR610	Lifting Spring Link R.H.	1	S	1		6
CTR611	Lifting Spring Link L.H.	1	S	1		6
CTR723	Lever Pawl Bracket for Double Pawl	1	S	1		10
CTR729	Pawl Keeper for Double Pawl	1	S	1		8
CTR730	Hook for Double Pawl	1	S	1		2
CTR741	Lever Pawl Rod	1	S	1		3
CTR1308X	Lifting Bail Arm — Long 1" RD x $9\frac{3}{4}$ " with Cotter	1	S	1	2	6
CTR1309X	Lifting Bail Arm — Short 1" x $7\frac{3}{4}$ " with Cotter	1	S	1	1	12
CTR1310X	Lifting and Depth Control Arms 1" x $7\frac{3}{4}$ " with Cotters	1	S	2	2	
CTR1327	Lifting and Depth Control Rod, Short, R.H. Threads with Clips Welded and Nut	1	A	1	2	
CTR1332	Furrow Wheel Adjusting Lever Complete	1	A	1	11	8
CTR1353X	Rear Axle with Nut	1	S	1	16	12
E141B	Adjusting Stem Bracket	1	C	1	4	5
E172D	Disc Bearing Hinge	1	C	2	22	7
E193	Disc Spindle	1	C	2	23	5
E240A	Scraper Clamp with Set Screws	1	C	2	3	5
E465B	Rear Wheel Weight	1	C	1	140	
E688	Sand Shield, Top, on Rear Axle CTR1353X	1	C	1	1	8
E689	Sand Shield, Bottom, on Rear Axle CTR1353X	1	C	1	1	12

*Not illustrated.

HEAVY DUTY SPRING TRIP STANDARDS



PICTURE 7



PICTURE 8

Picture
Reference No.

1.—TRIPPING (Picture 7; Reference No. 1)

- A. Spring trip standards are set to trip at a certain pressure. When these are painted more pressure may be required to trip them. To check, place the standard in position shown on tractor or in a vise. Insert a screw driver or similar object between standard and toggle link to trip.

2.—LUBRICATION (Picture 7; Reference No. 2)

- A. Oil all moving parts to insure proper operation.

3.—PRESSURE ADJUSTMENT (Picture 7; Reference No. 3)

- A. When more pressure is required to trip the foot loosen lock nut and back set screw out. When less pressure is required turn set screw in. Always tighten lock nut.

4.—PITCH OF SWEEPS (Picture 8; Reference No. 4)

- A. Sweeps should be set practically flat. If set too much on the point they become dull quicker, break easier and increase draft. To set the sweeps flatter loosen lock nut and turn set screw in. To set the sweeps more on the point turn set screw out. Always tighten lock nut.

5.—SHARPENING SWEEPS (Picture 8; Reference No. 5)

- A. Avery Blue Ribbon Sweeps should always be sharpened on the top side.