

# *Operator's Manual*

## **Congratulations:**

You have just purchased one of the most versatile machines on the market. With reasonable care and service it should give long and satisfactory service.

Any mechanical device can be potentially dangerous if not used properly. No accident prevention program can be successful without the wholehearted cooperation of the person who is directly responsible for the operation of the equipment. Study this operator's manual to learn the operation of the controls and observe all safety precautions. Only use this machine for the purpose it is intended. By following these instructions and safety precautions you should enjoy many hours of trouble-free operation.

# **Snapper Mower**

**MODELS V-21P – V-21PS  
V-21P-4 – SV-21P**

## **SNAPPER MOWER GUARANTEE**

All Snapper Mowers are guaranteed for normal use to the original purchaser against defective workmanship and material. This guarantee extends for one year from purchase date on mowers not used commercially, and for one month on mowers that are used commercially.

We will replace or repair without charge any part or parts returned to us during the guarantee period, with transportation charges prepaid, that our inspection shows to have been defective in workmanship or material when shipped from the factory.

This guarantee is void if the parts in question have been altered or damaged by accident, abuse, neglect, improper adjustment, lack of lubrication or normal wear. This guarantee does not cover engines, tires, tubes, batteries and belts which are guaranteed separately by their manufacturers.

No other guarantee, expressed or implied, is made by the Company which retains the right to change specifications without notice or obligation.

**IMPORTANT: This guarantee is void unless the guarantee card attached is filled out completely and mailed to the Factory within 10 days of the date mower was purchased.**

IT IS THE POLICY OF McDONOUGH POWER EQUIPMENT, INC. TO IMPROVE ITS PRODUCTS WHENEVER IT IS POSSIBLE AND PRACTICAL TO DO SO. WE RESERVE THE RIGHT TO MAKE CHANGES OR ADD IMPROVEMENTS AT ANY TIME WITHOUT INCURRING ANY OBLIGATION TO MAKE SUCH CHANGES ON PRODUCTS MANUFACTURED PREVIOUSLY.

**McDONOUGH POWER EQUIPMENT, INC.**

**McDONOUGH, GA., U. S. A., 30253**

# Assembly, Operation and Service Instructions For V-21P – V-21PS – V-21P-4 and SV-21P **SNAPPER MOWER**

## INSTALLATION OF HANDLES

1. Pull up and back on 3-7331 lower handle pivoting til. it is in place. Tighten the two 5-0348 wing nuts.
2. Fasten upper handle to lower handle, pivoting with 1/4-28 x 1 1/4 curved head bolts, 1/4 int. tooth lock washers and 1/4-28 hex nuts. **NOTE:** Bolt heads are inside of handle
3. Fasten shift detent to outside of upper handle using 1/4-28 curved head bolt in lower slot. **NOTE:** Head of bolt on outside of handle. Place 1/4 carriage bolt through handle, int. tooth lock washer, and upper slot in detent with head of bolt to inside of handle. Secure with 1/4 flat washer 1/4 int tooth lock washer and 1/4 20 hex nut.
4. Place long end of shift rod through wear block on shift handle. Friction washer is put on shift rod with flat ride next to detent. Place cone spring over shoulder of friction washer and secure with flat washer and cotter pin
5. Place other end of shift rod through wear block on bell crank and secure with cotter pin
6. Install throttle control using 1/4-28 x 1 1/2 curved head bolt, 1/4 int. tooth L washer, 1/4-28 hex nut **NOTE:** Head of bolt to outside of handle. Clip conduit to handle using the two clip on clips.

## INSTALLATION OF TRANSMISSION RELEASE ROD ASSEMBLY

1. Place two 5/16 flat washers on short end of release rod
2. Install short end of release rod through hole in transmission release bracket, as shown in fig 3 of this manual. Secure with 1/8 x 3/4 cotter pin.
3. Install other end on inside of handle at lower hole of shift detent, as shown in figure 4 of this manual. Secure with 1/4 int. tooth lock washer and 1/4-28 hex nut.

## INSTALLATION OF GRASS CATCHER. Figure 1

1. Disconnect spark plug wire.
2. Place front bag support (roll bar) with off-set side on right hand side into slots in rear wheel brackets. Top part will lay down close to engine. Raise up allowing ends to drop through slots into holes below.
3. Place plastic bag chute onto deck with stud nearest to "CAUTION" note passing through hole in chute. Make sure captive carriage bolt drops into slot in the bracket next to the right front wheel. Place half ring clamp with slotted end to rear over the front stud. Fasten with three 5/16" wing nuts and tighten securely.
4. Slip the ends of the 3-1127 front wire through the front flap of the bag and hook over the roll bar as shown in figure 4. Slip the ends of the 3-1128 rear wire in the rear flap and hook over the top section of the lower handle pivoting. If top of bag is not taut, remove and shift front and rear wires to inboard flaps and replace. Now slip inlet neck of the bag over bag chute as far as possible. Do not allow side of bag to block discharge opening of chute. Stop engine and empty bag of grass clippings at rear opening before bag is over filled or bag chute will become clogged. **NEVER ATTEMPT TO CLEAR BAG CHUTE IF CLOGGED UNLESS ENGINE IS STOPPED AND SPARK PLUG WIRE IS DISCONNECTED.**

## INSTALLATION OF SIDE CHUTE: Figure 2

1. Disconnect spark plug wire.
2. Remove grass catcher in reverse sequence of above installation.
3. Grip metal side chute with both hands and slip large slotted hole over mounting key on the deck. Slightly squeeze together and slip captive carriage bolt into slot in bracket at right front wheel while holding the slotted hole on the deck key.
4. Use one of the half clamps to hold the top down at the front stud. Use the extra half round clamp that was not used with the grass catcher to go over the rear stud and into the small slot in the side chute. Fasten with three 5/16" wing nuts and tighten securely.

## SAFETY PRECAUTIONS

Remember, a careful operator always is the best insurance against an accident.

Study this Operator's Manual, become familiar with the controls and how the mower operates

Learn to stop the mower quickly.

Never tamper with the safety interlock switch mounted near the oil fill plug which is provided to prevent the engine from running unless either the side chute or grass bag chute is in place.

Before starting clear area of debris.

Never attempt to adjust cutting height unless engine is stopped.

Always stop engine before opening or removing grass bag.

Operate the engine at the lowest speed that will cut satisfactorily.

Stop and check for breakage and repair any damage after striking foreign objects.

Give complete and undivided attention to the job at hand.

Never allow children to operate the mower.

Instruct individuals to stay away from the mower while it is in operation

Set mower at highest cutting height when mowing in rough ground or tall weeds.

Use caution when operating the mower on uneven terrain. Maintain good footing.

Mow slopes from side to side, rather than up and down.

When mowing, never discharge clippings toward windows and doorways.

Mow only in daylight or in good artificial light.

Do not operate mower with guards removed.

Stop the engine whenever you leave the mower even for a moment.

Do not crank or operate engine where exhaust fumes can collect.

Fill gas tank outdoors, but never while engine is running or while engine is hot. Avoid spilling. Always use an approved gasoline can.

WITH THESE SAFETY PRECAUTIONS IN MIND, WE CAN NOW PROCEED TO ASSEMBLY OF THE MOWER.

**ENGINE CARE AND OPERATION:**

1. FILL ENGINE WITH OIL BEFORE CRANKING.
2. Refer to engine manual furnished with this packet for instructions, to oil, fuel and maintain the engine properly.
3. NEVER PLACE MOWER ON ITS LEFT HAND SIDE WITH SPARK PLUG POINTED DOWNWARD AS THIS WILL ALLOW THE ENGINE OIL TO RUN OUT THROUGH THE VALVE TAPPET VENT. If left too long, oil could also leak past the piston into the cylinder.

**LUBRICATION:**

1. Change oil as specified in the engine manual.
2. Occasionally put a few drops of oil on all movable parts.
3. The ball bearing wheels have been factory greased and should not be greased unless removed.
4. Transmission assembly is pre-lubricated with 4 ounces of Snapper 'OO' Grease, Part No. 1-1050. To check grease, remove 1-1133 plug and see if grease is on Part No. 5-0305 input gear assembly. If not then add grease to transmission, and replace plug. The grease should be checked every 10 hours of operation.

**ADJUSTING CUTTING HEIGHT:**

1. This mower has solid through axles, front and rear, to give superior strength and wheel alignment. Thus with the through axle design, it is necessary to walk the height latches one notch at a time when it is desired to change the cutting height. NEVER UNLATCH BOTH SIDES AT THE SAME TIME.

2. When adjusting rear wheel height, pull back on release latch and push down on release rod to take tension off of belt. Release latch and move to desired position. Pull back on release rod to tighten belt.
3. When changing cutting height, make sure that all latches are in matching slots. This results in the cutting blade being slightly higher in the rear to eliminate drag.

**REFER TO PICTURES BELOW FOR PROPER INSTALLATION OF GRASS CATCHER AND SIDE CHUTE**

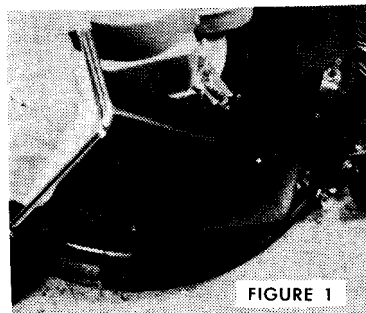


FIGURE 1

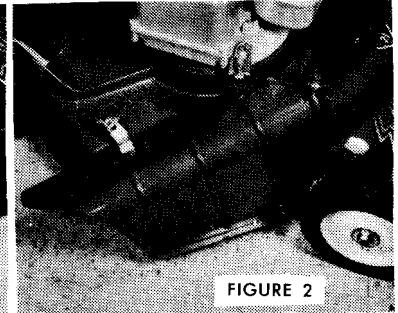


FIGURE 2

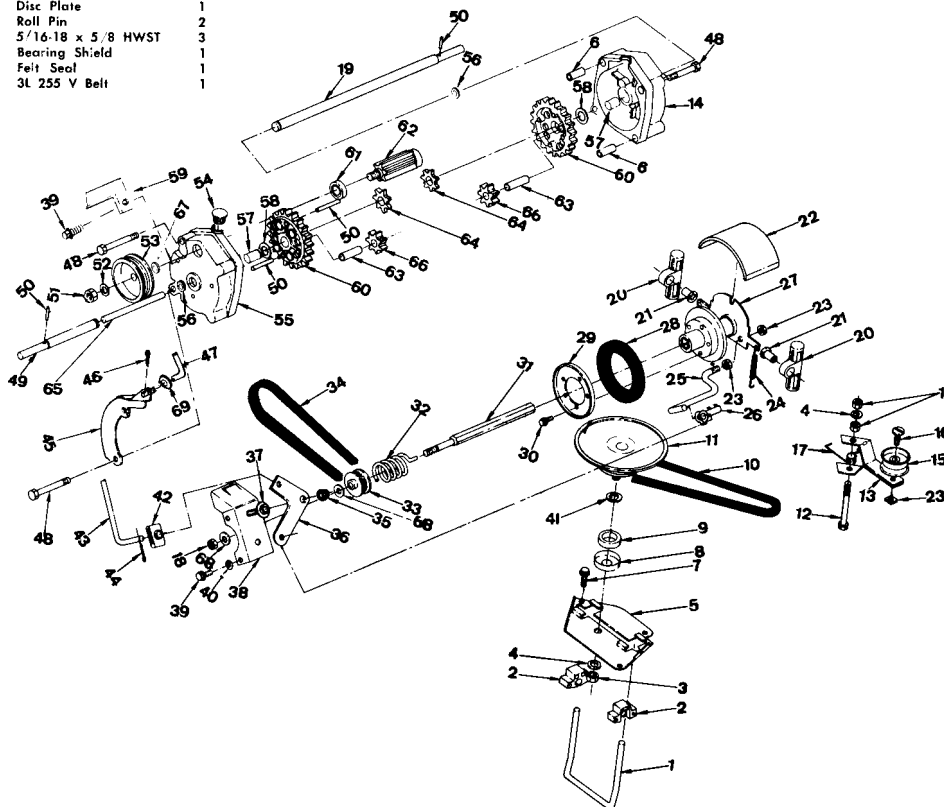
**OPERATING TIPS**

1. SNAPPER V-21P will cut either forward or backward. However, due to the set of the blade, slightly less power is required for forward cutting than for the reverse cutting.
2. To turn a end or a row, put mower in neutral, push down on handle bars to raise the front wheels off of the lawn. This permits turning on the back wheels only and saves scuffing the lawn.
3. For cutting around trees and plants, pull back on release latch and push down on release rod to take tension off of belt. This allows operator to push mower forward and pull mower backwards with ease in tight places.
4. For cutting on slopes it is usually best to move side to side only — not up and down hill.
5. When vacuuming a paved walk or driveway, first lower deck to lowest position. It is then best to run V-21P forward along the extreme left hand side of the area to be cleaned. This will pick up some litter and windrow some litter to the right of the first swath.
6. To prolong the life and usefulness of your mower, it is a good practice to wash out all the grass that may be sticking to the underside of the deck.

**Transmission Parts**

**TRANSMISSION ASSEMBLY 5-0266**

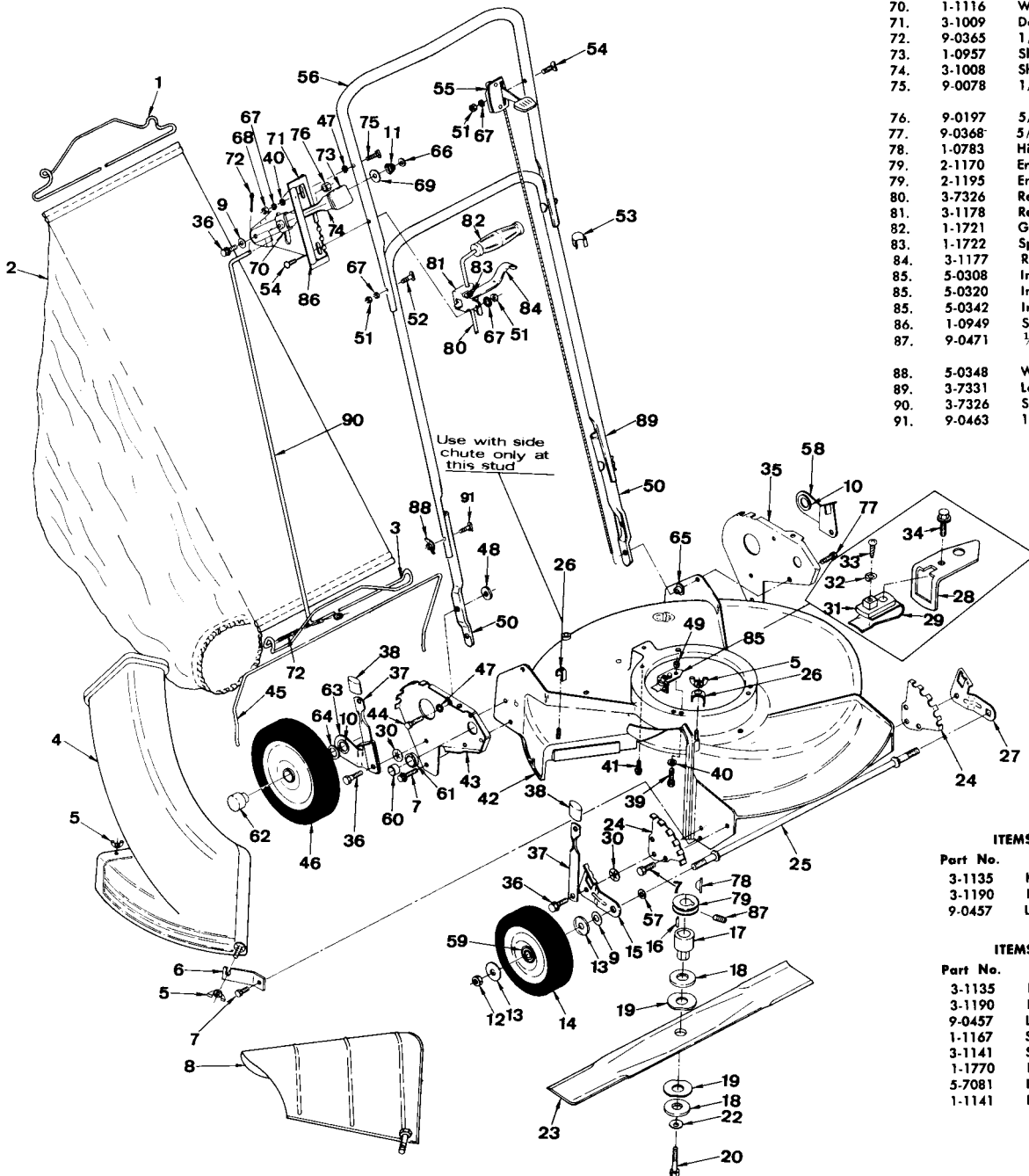
No.	Part No.	Description	Qty.
1	1-1112	Shift Fork	1
2	1-0955	Pillow Block	2
3	9-0155	3/8-24 Hex Nut	2
4	9-0390	3/8 Int. Tooth L'Washer	1
5	3-7310	Disc Plate	2
6	1-0826	Roll Pin	1
7	9-0361	5/16-18 x 5/8 HWST	3
8	3-1122	Bearing Shield	1
9	1-1032	Felt Seal	1
10	1-0849	3L 255 V Belt	1



No.	Part No.	Description	Qty.
11.	5-0301	Drive Disc Ass'y.	1
12.	9-0174	3/8-24 x 3 HHCS	1
13.	3-1006	Idler Arm	1
14.	1-8050	Out Board Housing	1
15.	1-0948	Idler Pulley	1
16.	9-0387	1/4-28 x 1 1/2 FHMS	1
17.	1-0947	Idler Spring	1
18.	9-0289	3/8-24 Hex L'Nut	3
19.	2-1131	Long Axle	1
20.	1-1109	Slide Block	2
21.	1-1115	Pivot Bearing	2
22.	1-1119	Cover	1
23.	9-0303	1/4-28 Hex L'Nut	3
24.	1-1126	Clutch Spring	2
25.	1-0930	Clutch Rod	1
26.	1-0937	Clutch Rod Clip	1
27.	5-0300	Driven Disc Ass'y.	1
28.	1-0927	Tire	1
29.	3-1013	Tire Plate	1
30.	9-0363	10-24 x 5/8 SEMS St.	5
31.	2-1117	Hex Shaft	1
32.	1-1118	Rev KO Spring	1
33.	2-1114	Polly "V" Pulley, 1-9/16 Pd	1
34.	1-1117	200 J6 Polly "V" Belt	1
35.	1-0969	5/16-24 Flanged L'Nut	1
36.	3-1015	Bell Crank	1
37.	1-1114	Friction Washer	1
38.	4-0359	Bell Crank Str.	1
39.	9-0362	1/4-20 x 5/8 SEMS St.	3
40.	9-0051	1/4 SAE Washer	2
41.	9-0122	3/8 SAE Washer	2
42.	1-1116	Wear Block	1
43.	3-1007	Shift Link	1
44.	9-0365	Cotter Pin, 1/8 x 3/4	1
45.	3-7325	Transmission Release Brkt.	1
46.	9-0365	1/8 x 3/4 Cotter Pin	1
47.	3-7326	Release Rod	1
48.	9-0386	1/4-20 x 2 1/2 HHCS	4
49.	2-1130	Short Axle	1
50.	1-0172	3/16 x 1 1/2 Roll Pin	4
51.	9-0394	7/16-20 Hex Nut	1
52.	1-1079	Spring Washer	1
53.	1-0936	Polly "V" Pulley	1
54.	1-1133	Plug	1
55.	1-8048	Inboard Housing	1
56.	1-1179	Seal	2
57.	1-0932	Bearing	2
58.	2-0938	Thrust Washer	2
59.	3-1289	Belt Guide	1
60.	1-0919	46T, 12P. Gear	2
61.	1-1767	Ball Bearing	1
62.	5-0305	Input Gear Assembly	1
63.	1-1110	Shaft	2
64.	2-1116	12T, 12P. Gear	2
65.	2-1132	Pin	1
66.	2-1115	12T, 12P. Penion	2
67.	1-1724	Spring Washer	1
68.	1-1731	Belleville Washer	2
69.	9-0188	5/16 SAE Washer	2

FIGURE 3

Item	Part No.	Description	Qty.	Item	Part No.	Description	Qty.	Item	Part No.	Description	Qty.
1.	3-1128	Rear Wire	1	22.	1-1132	Washer	2	40.	9-0188	5/16 SAE Flat Washer	1
2.	1-1098	Grass Bag	1	23.	1-8065	Cutter Blade	1	41.	9-0324	3/8-16 x 1 Cap Screw ST 2	2
3.	3-1127	Front Wire	1	24.	3-7300	Front Bracket	2	42.	5-0297	Deck Assembly	1
4.	5-0293	Bag Chute Assembly	1	25.	2-1119	Axle	1	43.	3-7308	Rear Bracket, RH	1
5.	9-0375	5/16-18 Wing Nut	3	26.	3-1123	Clamp	1	44.	9-0227	5/16-24 x 5/8 HHCS	2
6.	3-1124	Side Brkt.	1	27.	3-1016	Wheel Arm, Front LH	1	45.	3-7305	Roll Bar	1
7.	9-0361	5/16-18 x 5/8 SEMS	5	28.	3-1029	Ground Strap, V-21P	1	46.	1-0945	Rear Wheel	2
8.	5-0302	Side Chute Ass'y.	1	28.	3-1144	Ground Strap, V-21PS	1	47.	9-0189	5/16 Int.-Ext. Tooth L'washer	3
9.	1-1079	Spring Washer	3	28.	3-1181	Ground Strap, V-21P-4	1	48.	1-0974	5/16-24 Weld Nut	2
10.	1-0953	Bearing	2	29.	1-0975	Interlock	1	49.	9-0222	5/16-24 Hex Lock Nut	1
11.	1-0946	Shift Spring	1	30.	1-1104	Push Nut	4	50.	3-7333	Lower Handle Stat	2
12.	9-0377	7/16-20 Jam Lock Nut	2	31.	1-0952	Insulator	1	51.	9-0095	3/4-28 Hex Nut	6
13.	3-1121	Hub Cap, Front	4	32.	9-0385	Tab Washer	1	52.	1-1027	1/4-28 x 1 1/4" CH Bolts	4
14.	1-1083	Front Wheel, 7 x 1:50	2	33.	9-0379	10-18 x 3/4" Screw	1	53.	1-0098	Clip	2
15.	3-1017	Wheel Arm, Front RH	1	34.	9-0363	10-24 x 5/8 SEMS CS	1	54.	1-1028	3/4-28 x 1 1/2" CH Bolt	2
16.	1-0008	Key	1	35.	3-7309	Rear Bracket, LH	1	55.	1-8067	Throttle Control	1
17.	2-1018	Shock Clutch	1	36.	1-1078	5/16 Shoulder Screw	5	56.	3-5949	Upper Handle	1
	6-0131	Shock Clutch Kit	1	37.	1-0921	Height Latch	4	57.	1-1103	Spacer	1
18.	3-1122	Clutch Washer	2	38.	1-1093	Grip	4	58.	3-1019	Wheel Arm, Rear LH	1
19.	1-1102	Fiber Washer	2	39.	9-0359	5/16-24 x 1 5/8" CS, Grade 5	1	59.	1-1125	Bearing	4
20.	1-0007	Cap Screw, 3/8-24 x 2", Grade 5	1					60.	1-1726	Flex Bushing	1
21.	1-0006	3/8 Lock Washer	1					61.	1-0756	Ball Bearing	1



62.	1-1113	Hub Cap, Plastic	2
63.	3-1018	Wheel Arm, Rear RH	1
64.	1-0935	3/4 Special Washer	2
65.	9-0388	5/16-18 Dot "T" Nut	2
66.	9-0122	3/8 SAE Washer	2
67.	9-0053	3/4 Int. Tooth L'washer	8
68.	9-0063	1/4-20 Hex Nut	1
69.	1-1114	Friction Washer	1
70.	1-1116	Wear Block	1
71.	3-1009	Detent	1
72.	9-0365	1/8" x 3/4" Cotter Pin	2
73.	1-0957	Shift Knob	1
74.	3-1008	Shift Handle	1
75.	9-0078	1/4-20 x 1 1/4 Carriage Bolt	1
76.	9-0197	5/16-18 Jam Nut	1
77.	9-0368	5/16-18 x 3/4 HHWFCS ST 2	1
78.	1-0783	Hi-Pro Key	1
79.	2-1170	Engine Pulley, V-21P-PS	1
79.	2-1195	Engine Pulley, V-21P-4	1
80.	3-7326	Release Rod	1
81.	3-1178	Release Brkt.	1
82.	1-1721	Grip	1
83.	1-1722	Spring	1
84.	3-1177	Release Latch	1
85.	5-0308	Interlock Ass'y., V-21P	1
85.	5-0320	Interlock Ass'y., V-21PS	1
85.	5-0342	Interlock Ass'y., V-21P-4	1
86.	1-0949	Shift Decal	1
87.	9-0471	1/4-20 x 5/16 Skt. Set Screw	1
88.	5-0348	Wing Nut	2
89.	3-7331	Lower Handle Pivoting Shift Rod	1
90.	3-7326	Shift Rod	1
91.	9-0463	1/4-28 x 1 3/4 Curved Head Bolt	2

**ITEMS NOT SHOWN, V-21P**

Part No.	Description	Qty.
3-1135	Heat Shield, 3 1/2 HP	1
3-1190	Heat Shield, 4 HP	1
9-0457	Lock Washer	1

**ITEMS NOT SHOWN, V-21PS**

Part No.	Description	Qty.
3-1135	Heat Shield, 3 1/2 HP	1
3-1190	Heat Shield, 4 HP	1
9-0457	Lock Washer	1
1-1167	Switch Key	2
3-1141	Switch Plate	1
1-1770	Battery Assembly	1
5-7081	Battery Clamp	1
1-1141	Harness Ass'y.	1

FIGURE 4