



FORCE™ 601V & 601X BLOWER Owner's Manual



Patent #6,253,416 and other patents pending
FORCE BLOWER Owner's Manual
F601V, F601X
Beginning Serial #: 110215001

ACCESSORIES

| FRONT AIR DIRECTOR | HOSE KIT |
|---|--|
| Simple to attach, allowing air to be directed forward. | Easily attached hose and nozzle for hard to reach places. |
|  |  |
| PN# 441130 | PN# 441166 |

Original Instructions

IMPORTANT- READ CAREFULLY BEFORE USE AND KEEP FOR FUTURE REFERENCE



FORCE™ 601V BLOWER Owner's Manual

CONTENTS

| | |
|--|---|
| SPECIFICATIONS, SAFETY, & INSTRUCTION LABELS | 3 |
| PACKING CHECKLIST | 4 |
| ASSEMBLY | 5 |
| OPERATION AND MAINTENANCE | 6 |
| TROUBLESHOOTING | 7 |
| ILLUSTRATED PARTS LIST | 8 |
| PARTS LIST | 9 |

Go to <http://www.billygoat.com> for French-Canadian translations of the product manuals.

Visitez <http://www.billygoat.com> pour la version canadienne-française des manuels de produits.



FORCE™ 601V BLOWER Owner's Manual

SPECIFICATIONS

| | F601V | F601X |
|----------------------|------------------|-------------------|
| Engine HP | 5.5 HP (4.1kW) | 4.74 HP (3.53kW) |
| Engine Model | 13L1320129F8 | 130G320231F1 |
| Engine Type | B & S VANGUARD | B & S XR 950 |
| Engine Fuel Capacity | 3.5 qt. (3.3 L) | 3.2 qt. (3.0 L) |
| Engine Oil Capacity | 0.63 qt.(0.60 L) | 0.63 qt. (0.60 L) |
| Total Unit Weight | 89# (40.3 kg) | 83# (38kg) |
| Overall Length | 43.5" (1.1m) | 43.5" (1.1m) |
| Overall Width | 22" (0.56m) | 22" (0.56m) |
| Overall Height | 45" (1.14m) | 45" (1.14m) |
| Max Operating Slope | 20° | 20° |

SAFETY



WARNING



This product can expose you to chemicals including gasoline engine exhaust, which is known to the State of California to cause cancer, and carbon monoxide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

INSTRUCTION LABELS

The labels shown below were installed on your BILLY GOAT® FORCE™ Blower. If any labels are damaged or missing, replace them before operating this equipment. For your convenience in ordering replacement labels, part numbers are included in the Illustrated Parts List. The correct position for each label may be determined by referring to the Figure and Item numbers shown.



LABEL SPARK ARRESTOR
P/N 100252



LABEL SAFETY PROTECT
ITEM # 36 P/N 100346



LABEL FLYING DEBRIS
ITEM # 37 P/N 810736



LABEL EXPLOSIVE FUEL
ITEM # 34 P/N 400268



LABEL READ OWNERS MANUAL
ITEM # 35 P/N 890301



FORCE™ 601V BLOWER Owner's Manual

PACKING CHECKLIST

These items should be included in your carton. If any of these parts are missing, contact your dealer. Your BILLY GOAT® FORCE Blower was shipped in one carton, completely assembled except for the Upper Handle Assembly and Front Diverter. Mounting hardware for the Upper Handle Assembly can be found on the lower handle.



READ all safety instructions before assembling unit.

TAKE CAUTION when removing the unit from the box as the Handle Assembly is attached to the unit by cables.



PUT OIL IN ENGINE BEFORE STARTING

PARTS BAG & LITERATURE ASSY

Warranty card P/N- 400972, Owner's Manual P/N-441247, General Safety and Warnings Manual P/N-100294, Declaration of Conformity P/N-441249



Boxing Parts Checklist

- Handle Upper Assembly
Item 24 P/N-441157
- Parts Bag & Literature Assy
P/N-441248
- Vanguard 5.5
- B&S XR950



FORCE™ 601V BLOWER Owner's Manual

ASSEMBLY

1. The hardware for attaching the upper handle to the lower can be found in the parts bag. Install the upper handle (item #24) to preassembled lower handles (item #25 and #26) by sliding the upper handle over and down the inside of the lower handle. Using bolt (item #12), washers (item 10) and lock nut (item #11), install upper handle to lower handle. Finish installing the other side of the upper handle assembly using screw and lock nut provided. The Aim-and-Shoot™ is not attached, you will need to unroll the cable and attach the ball end to the lever and seat the cable end into the hole on the saddle clamp, with the cable running through the slot. To keep the cable from being damaged, use three ty-wraps (item #61) to secure it to the handle as shown, making sure that the cable is not rubbing against the tire. (See Fig. 1)
2. Attach the front tire using the hardware located on the front wheel bracket. Use a block to raise the front end of the unit off the ground. Insert the wheel spacer (item #17) into the wheel and place in between the bracket. Finally insert the bolt (item #20) through the bracket, wheel, and spacer and secure with the nut (item #27). (See Fig. 2)
3. Connect spark plug wire.

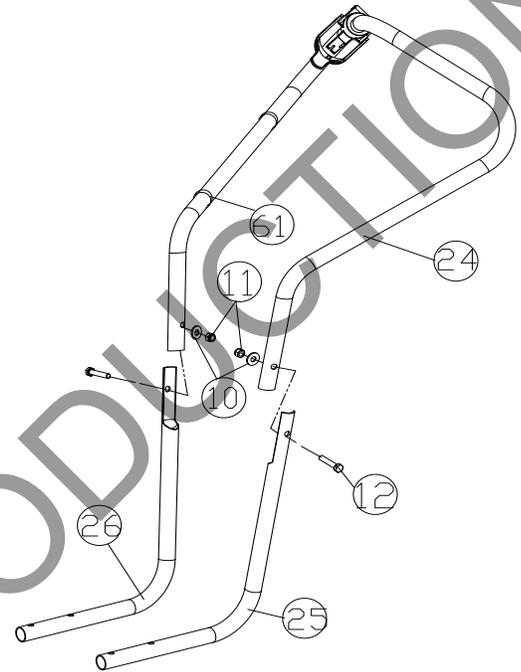


Fig. 1

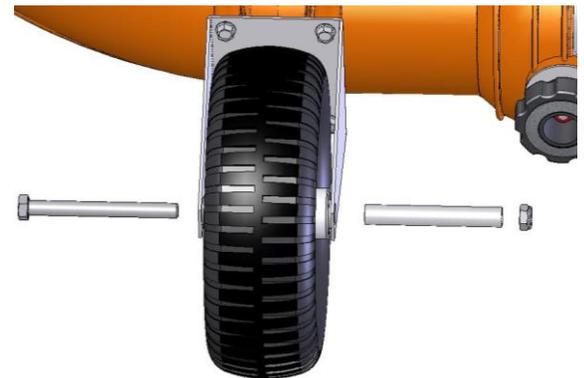


Fig. 2



FORCE™ 601V BLOWER Owner's Manual

OPERATION

BLOWING OPERATION

Your Billy Goat Force™ blower is equipped with an air director cone and the patented Aim-N-Shoot™ control lever to allow the operator to direct the air stream up or down as required to assist in moving debris. This feature is extremely useful when debris has piled up to the point that it cannot be blown any farther. The air stream can be directed upward to blow the top of the debris pile over and allow the operator to continue moving more debris farther.

ADJUSTING AIR DIRECTOR

To adjust air direction, squeeze Aim-N-Shoot control lever. When you want to blow debris at the same angle for an extended period, choose a suitable position and use the finger controlled push button lock to lock the cone in position. For operations that do not require the use of the Aim-N-Shoot feature, the manual adjustment knob, pictured below, can be used to permanently lock the cone into position. *NOTE:* be sure to release the knob when returning to using the Aim-N-Shoot (See Fig. 3).

⚠ DO NOT position director cone to where it will blow debris towards people, vehicles or other objects in vicinity. Flying debris may damage, harm, or cause injury to people or objects in air flow range.

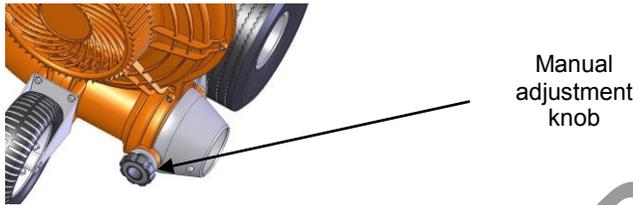


Fig. 3

MAINTENANCE

PERIODIC MAINTENANCE

Periodic maintenance should be performed at the following intervals:

| Maintenance Operation | Every Use | Daily or Every 5 Hours | Every 100-150 Hours |
|---------------------------------------|-----------|------------------------|---------------------|
| Inspect for worn or damaged parts | • | | |
| Check for excessive vibration | | • | |
| Inspect impeller for cracks or damage | | | • |
| Inspect for loose parts | | • | |

IMPELLER REMOVAL

1. Wait for engine to cool and disconnect spark plug.
2. Remove housing front cover by removing the ten screws from around outside of front cover and the exhaust knob (item #22) and nut (item #14).
3. Remove impeller bolt (item #29), lock washer (item #7) and washer (item #28).
4. **DO NOT** pry on impeller. Pull on center hub area only of impeller. If impeller slides off freely, proceed to (step 6).
5. If the impeller does not loosen, use a pry bar against the back of the hub and the plate and apply pressure to separate the impeller from the shaft. **DO NOT** use the pry bar to apply pressure to any plastic part such as the impeller or the main housing. Using a penetrating oil can help loosen a stuck impeller.
6. Reinstall new impeller in reverse order of removal.
7. Tighten impeller bolt. Torque impeller bolt (see Parts List on page 10 for proper impeller bolt torque specifications).



FORCE™ 601V BLOWER Owner's Manual

TIRE AIR PRESSURE

Check at regular intervals and maintain.

Rear Tires - 20 Psi (137 kPa).

TROUBLESHOOTING

| Problem | Possible Cause | Solution |
|--------------------------------------|--|---|
| Abnormal vibration | Loose or out of balance impeller. Debris in impeller. Loose engine. | Check impeller and replace if required. Clear debris with compressed air or a backpack blower (See Fig. 4 and 5 below).* Check engine. |
| Engine will not start | Engine not in full choke position. Out of gasoline or bad, old gasoline. Spark plug wire disconnected. Gas valve off. Dirty air cleaner. | Check choke position. Check gasoline. Connect spark plug wire. Turn on gas valve. Clean or replace air cleaner. Contact a qualified service person. |
| Engine is locked, will not pull over | Engine problem. | Contact an engine servicing dealer for engine problems. |
| Aim-N-Shoot™ lever sticking | Debris stuck around cone. Cone adjustment knob too tight. Adaptor mount nut (item #43) too tight. | Clean debris. Apply silicone based lubricant to pivot points. Loosen manual adjustment knob. Loosen nut. |

*Using compressed air, or a backpack blower, you can loosen or free debris easily from the impeller and housing, which can cause wear and tear on the machine. You can manually remove debris by taking off the front housing.
NOTE: Always disconnect the spark plug when servicing.
(See Fig. 4 and 5)



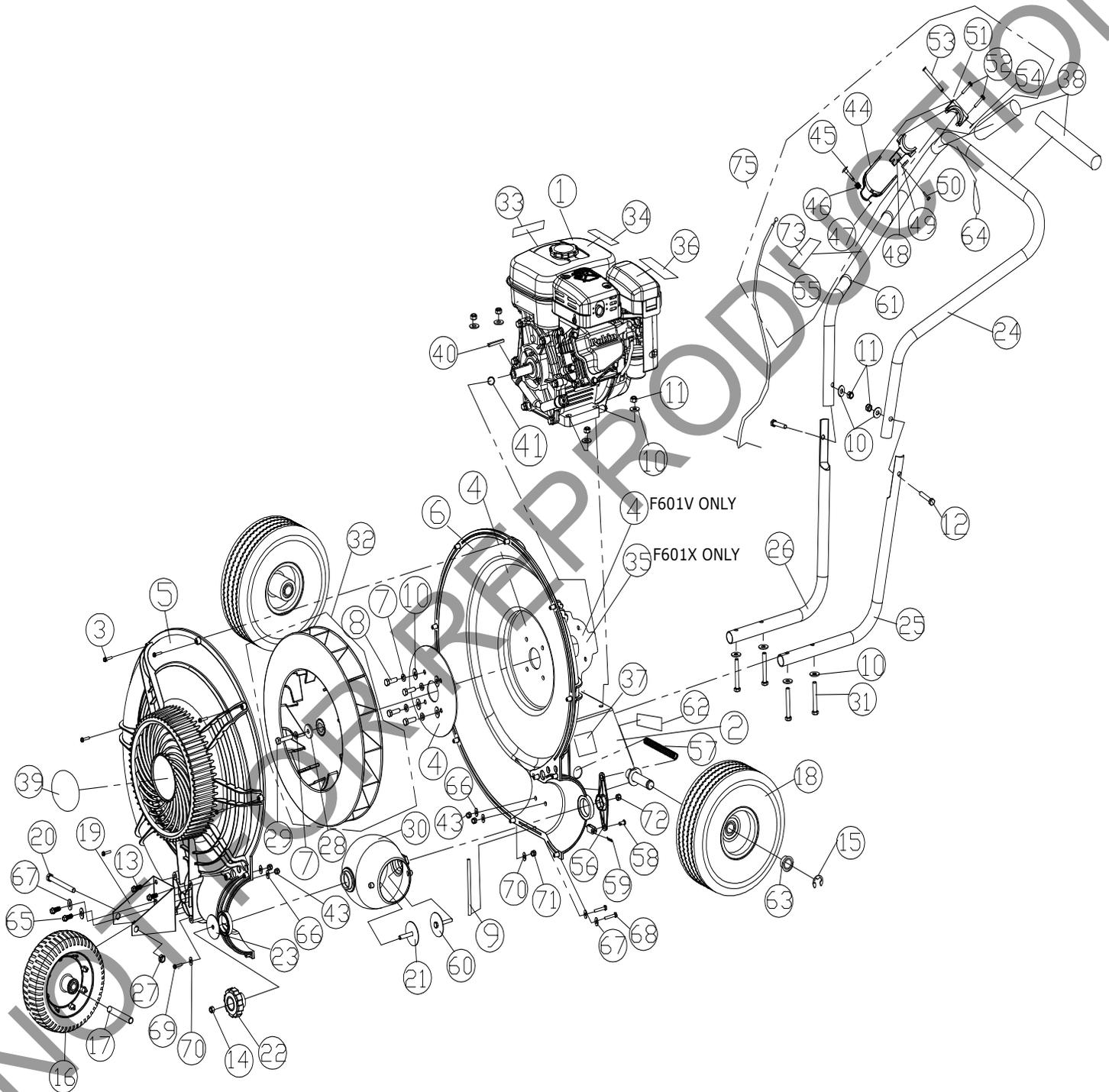
Fig. 4

Fig. 5



FORCE™ 601V BLOWER Owner's Manual

F601V and F601X PARTS DRAWING





FORCE™ 601V BLOWER Owner's Manual

F601V and F601X PARTS LIST

| ITEM NO. | DESCRIPTION | PART NUMBER | QTY. | PART NUMBER | QTY. |
|----------|--|-------------|------|-------------|------|
| 1 | ENGINE 5.5 B&S VANGUARD | 441107 | 1 | - | - |
| | ENGINE B&S XR | - | - | 441210 | 1 |
| 2 | BASE ENGINE WA | 441151-S | 1 | 441151-S | 1 |
| 3 | SCREW PLASTITE #8-16 X 3/4" HWH | 441155 | 10 | 441155 | 10 |
| 4 | PLATE REINFORCE HOUSING | 441102 | 2 | 441102 | 1 |
| 5 | HOUSING FRONT MOLDED | 441101-1-S | 1 | 441101-1-S | 1 |
| 6 | HOUSING BACK MOLDED | 441101-2 | 1 | 441101-2 | 1 |
| 7 | WASHER LOCK 5/16 ST MED | 8177011 | 5 | 8177011 | 5 |
| 8 | SCREW CAP 5/16-24 X 1" GR. 5 ZP | 400164 | 4 | 400164 | 4 |
| 9 | ROD HAND STOP | 441154 | 1 | 441154 | 1 |
| 10 | WASHER 5/16 FLATWASHER ZP | 8171003 | 14 | 8171003 | 14 |
| 11 | NYLON INSERT LOCKNUT 5/16-18 | 8160002 | 6 | 8160002 | 6 |
| 12 | SCREWCAP 5/16-18 X 1.75 ZP | 8041031 | 2 | 8041031 | 2 |
| 13 | SCREW PLASTITE 1/4-10 X 3/4 HWH | 840082 | 4 | 840082 | 4 |
| 14 | NUT LOCK 5/16-18 LT WT TH ZP | 8161041 | 1 | 8161041 | 1 |
| 15 | RING RETAINING 3/4 | 850230 | 2 | 850230 | 2 |
| 16 | WHEEL 8" X 0.5 | 441123 | 1 | 441123 | 1 |
| 17 | SPACER FRONT AXLE | 441162 | 1 | 441162 | 1 |
| 18 | WHEEL ASSY 10" | 400295 | 2 | 400295 | 2 |
| 19 | FRONT WHEEL BRACKET | 441122 | 1 | 441122 | 1 |
| 20 | SCREWCAP 3/8-16 X 3 3/4 HCS ZP | 8041061 | 1 | 8041061 | 1 |
| 21 | WASHER W/BOLT WA | 441156 | 1 | 441156 | 1 |
| 22 | KNOB 5/16-18 X 5/8 FLUTED | 400339 | 1 | 400339 | 1 |
| 23 | WASHER EXTENSION | 810652 | 1 | 810652 | 1 |
| 24 | HANDLE UPPER | 441157-S | 1 | 441157-S | 1 |
| 25 | HANDLE LOWER LH | 441158 | 1 | 441158 | 1 |
| 26 | HANDLE LOWER RH | 441159 | 1 | 441159 | 1 |
| 27 | NUT LOCK 3/8-16 LT WT THIN ZP | 8161042 | 1 | 8161042 | 1 |
| 28 | WASHER 1.125 OD X 0.344 ID X 10 GA. | 441150 | 1 | 441150 | 1 |
| 29 | SCREWCAP 5/16-24 X 1 1/2 GR 8 24-28 Ft. lbs. (33-38 N.m) | 830135 | 1 | 830135 | 1 |
| 30 | DIRECTOR CONE 3.5" | 441120-01 | 1 | 441120-01 | 1 |
| 31 | SCREWCAP 5/16-18 X 2 1/2 | 8041034 | 4 | 8041034 | 4 |
| 32 | IMPELLER ASSEMBLY 16" | 441202-S | 1 | 441202-S | 1 |
| 33 | LABEL SPARK ARRESTOR | 100252 | 1 | 100252 | 1 |
| 34 | LABEL WARNING FUEL EN/SP | 100261 | 1 | 100261 | 1 |
| 35 | PLATE ENGINE XR 950 | - | - | 441255 | 1 |
| 36 | LABEL SAFETY PROTECT READ MANUAL | 100346 | 1 | 100346 | 1 |
| 37 | LABEL DANGER FLYING DEBRIS | 810736 | 1 | 810736 | 1 |
| 38 | GRIP 1" ID x 13" | 400570 | 2 | 400570 | 2 |
| 39 | LABEL LOGO SMALL FRAME | 441234 | 1 | 441234 | 1 |
| 40 | KEY 3/16" SQ x 1 3/4 | 9201084 | 1 | 9201084 | 1 |
| 41 | SPACER ENGINE BRIGGS XR | - | - | 441254 | 1 |
| 43 | NUT LOCK 1/4"-20 HEX ZP | 8160001 | 4 | 8160001 | 4 |
| 44 | HANDLE DIVERTER FORCE | 440119 | 1 | 440119 | 1 |
| 45 | PIN LATCH DIVERTER | 440118 | 1 | 440118 | 1 |
| 46 | SPRING COMPRESSION 0.281 X 0.88 | 440129 | 1 | 440129 | 1 |
| 47 | RING RETAINING .122 DIA | 440125 | 1 | 440125 | 1 |
| 48 | SADDLE LOWER DIVERTER | 440115 | 1 | 440115 | 1 |
| 49 | PLATE LOCK DIVERTER | 440116 | 1 | 440116 | 1 |
| 50 | SCREW PLASTITE #6-19 X 5/8" | 440132 | 1 | 440132 | 1 |
| 51 | SADDLE UPPER DIVERTER | 440114 | 1 | 440114 | 1 |
| 52 | SCREW PLASTITE #10-14 X 1" | 440126 | 2 | 440126 | 2 |
| 53 | PIN PIVOT DIVERTER CONTROL | 440123 | 1 | 440123 | 1 |
| 54 | RING RETAINING 5/16 | 430327 | 1 | 430327 | 1 |
| 55 | CABLE ASSY | 441163 | 1 | 441163 | 1 |
| 56 | DIVERTER PIVOT ADAPTOR | 440121 | 1 | 440121 | 1 |
| 57 | SPRING EXTENSION 0.468 X 5.25 | 440130 | 1 | 440130 | 1 |
| 58 | PIN CLEVIS 1/4 X 3/4 | 440124 | 1 | 440124 | 1 |
| 59 | .051 X 3/4" HITCH PIN CLIP | 440193 | 1 | 440193 | 1 |
| 60 | ADAPTOR MOUNT WA | 440122 | 1 | 440122 | 1 |
| 61 | TY-WRAP | 900407 | 3 | 900407 | 3 |
| 62 | LABEL VIBRATION WARNING | 440191 | 1 | 440191 | 1 |
| 63 | FORCE WHEEL BEARING .751 ID | 440055 | 2 | 440055 | 2 |
| 64 | ELASTIC LOOP BLACK 5.5" | 100267 | 1 | 100267 | 1 |
| 65 | SCREWCAP 1/4-20 X 1 1/4" HCS ZP | 8041007 | 2 | 8041007 | 2 |
| 66 | FENDER WASHER 5/16 | 8172020 | 4 | 8172020 | 4 |
| 67 | WASHER 1/4" SAE | 8172007 | 4 | 8172007 | 4 |
| 68 | SCREWCAP 1/4"-20 1 1/2" HCS ZP | 8041008 | 2 | 8041008 | 2 |
| 69 | SCREWCAP #10-24 X 1 1/4" HWH ZP | 8059140 | 1 | 8059140 | 1 |
| 70 | WASHER #10 SAE | 8172005 | 2 | 8172005 | 2 |
| 71 | NUT LOCK LT #10 - 24 HEX | 8164005 | 1 | 8164005 | 1 |
| 72 | NUT LOCK 1/4"-20 2 WAY | 8142004 | 1 | 8142004 | 1 |
| 73 | LABEL AIM AND SHOOT | 440332 | 1 | 440332 | 1 |
| 75 | DIVERTER ASSY | 440312 | 1 | 440312 | 1 |