



BILLY GOAT DL TRUCK LOADER VACUUM Owner's Manual

DL1201L, DL1301H, DL1401SE, DL1801V, DL1801VE

Accessories

INTAKE

HOSE REPLACEMENT KIT



Standard on DL units.
[8" (203mm) x 10'
(3.0m)]
[10" (254mm) X
10' (3.0m)]

8" Hose P/N 811244
10" Hose P/N 791033

EXHAUST

*EXHAUST HOSE KIT



[7" (203mm) x 5'
(1.5m)] *flexible*
hose increases
exhaust
distance.

**7" Flexible
Hose P/N**
812300

HANGING EXTENSION KIT



Allows the Debris
loader to hang
from a vertical
side panel. (Not
for use in
transport)

P/N 812260

*EXHAUST EXTENSION KIT



Allows the height of
the exhaust chute
to be raised.
*The Exhaust
extension and
Exhaust hose kit
are not compatible
with each other

P/N 812273

SWING AWAY HITCH



Allows the DL to be
attached to a hitch and
swung out for easier
cleanup

Swing away-SAH34
Stake body swing
away-SBSA6



CONTENTS

SPECIFICATIONS AND SOUND/VIBRATION	3
INSTRUCTION LABELS	4
PACKING CHECKLIST	5
ASSEMBLY AND MOUNTING	6
OPERATION	7
MAINTENANCE	8-9
TROUBLE SHOOTING	10
ILLUSTRATED PARTS & PART LISTS	11-13

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



DL12/13/14/18 Owner's Manual

Specifications

	DL1201L	DL1301H	DL1401SE	DL1801V	DL1801VE
Engine: HP	12 (8.95 kW)	13 (9.69 kW)	14 (9.69 kW)	18 (13.4 kW)	18 (13.4 kW)
Engine: Model	HK291150124P-BPQE2	GX390U1QA2	EX400DE5030	3564420186EI	3564470288B1
Engine: Type	LCT OHV	HONDA	SUBARU	BRIGGS AND STRATTON	BRIGGS AND STRATTON
Engine: Fuel Capacity	6 qt. (5.68 L)	6.9 qt. (6.5 L)	7.4 qt. (7.0 L)	9qt. (8.52 L)	9qt. (8.52 L)
Engine: Oil Capacity	0.875 qt. (0.8 L)	1.16 qt. (1.1 L)	1.3 qt. (1.2 L)	1.75 qt. (1.66 L)	1.75 qt. (1.66 L)
Total Unit Weight:	204 lbs (92.5 kg)	207 lbs (93.9 kg)	267 lbs (93.9 kg)	267 lbs (121.1 kg)	267 lbs (121.1 kg)
Max operating slope	25°	25°	25°	25°	25°
Overall Height	74 7/8" (1.90m)	74 7/8" (1.90m)	74 7/8" (1.90m)	74 7/8" (1.90m)	74 7/8" (1.90m)
Overall Height with optional trailer	91"(2.31m)	91"(2.31m)	91"(2.31m)	91"(2.31m)	91"(2.31m)
Overall Width	32 1/4" (0.82m)	32 1/4" (0.82m)	32 1/4" (0.82m)	32 1/4" (0.82m)	32 1/4" (0.82m)
Overall Length	60" (1.52m)	60" (1.52m)	60" (1.52m)	60" (1.52m)	60" (1.52m)
In compliance with 2000/14/EEC standards	121 dB(a)	121 dB(a)	121 dB(a)	121 dB(a)	121 dB(a)
Sound at operators position	105 dB(a)	105 dB(a)	105 dB(a)	105 dB(a)	105 dB(a)
Vibration at operator position	0.02g	0.02g	0.02g	0.02g	0.02g

Battery (Electric Models Only)

	Model	CCA @ 0° F	AH Rating	Length	Width	Height
DL14	ETX12	180	10	5.9" (150mm)	3.4" (86mm)	5.2" (132mm)
DL18 Battery not included with machine	U1 Group	275	19	6 7/8" (175mm)	4" (100mm)	6 1/8" (155mm)

SOUND



SOUND LEVEL 105 dB(a) at Operator Position

Sound tests were conducted in accordance with 2000/14/EEC, and were performed on 6/18/07 under the conditions listed below.

Sound power level listed is the highest value for any model covered in this manual. Please refer to serial plate on the unit for the sound power level for your model.

General Conditions:
Temperature:
Wind Speed:
Wind Direction:
Humidity:
Barometric Pressure:

Cloudy
74°F (23.2°C)
3.7 mph (21.6 kmh)
South
83.5%
29.8 Hg (756 mm Hg)

VIBRATION DATA

VIBRATION LEVEL 0.02g

Vibration levels at the operator's handles were measured in the vertical, lateral and longitudinal directions using calibrated vibration test equipment. Tests were performed on 7-10-07 under the conditions listed below.

General Conditions:
Temperature:
Wind Speed:
Wind Direction:
Humidity:
Barometric Pressure:

Sunny
86°F (17°C)
13 mph (20 kph)
North
49%
29.8"Hg (756mm Hg)



DL12/13/14/18 Owner's Manual

INSTRUCTION LABELS

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



DANGER KEEP HANDS AND FEET AWAY
ITEM #18 P/N 400424



EAR EYE BREATHING
ITEM# 31 P/N 890254



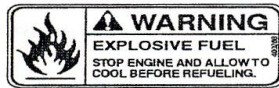
WARNING SECURE
ITEM#62 P/N 790232



DANGER FLYING DEBRIS
ITEM #61 P/N 810736



READ OWNERS MANUAL
ITEM #30 P/N 830301



EXPLOSIVE FUEL
ITEM #32 P/N 400268



LABEL SPARK ARRESTOR
ITEM #15 P/N 100252



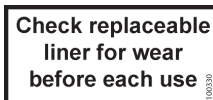
WARNING ENGINE OVERHEAT
ITEM #14 P/N 811215



SECURE NOZZLE
ITEM #59 P/N 790232



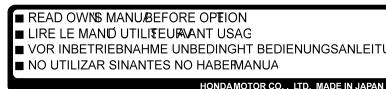
DL INSTRUCT/WARN
ITEM #28 P/N 790142



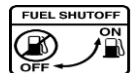
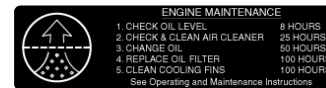
LABEL WARNING LINER
ITEM #88 P/N 100330

ENGINE LABELS

HONDA



B&S VANGUARD





PACKING CHECKLIST

Your Billy Goat is shipped from the factory in one carton and is completely assembled except for the exhaust elbow, nozzle, handle loop for nozzle, hose booms, hose bands, hose coupler, hose clamps and related hardware.



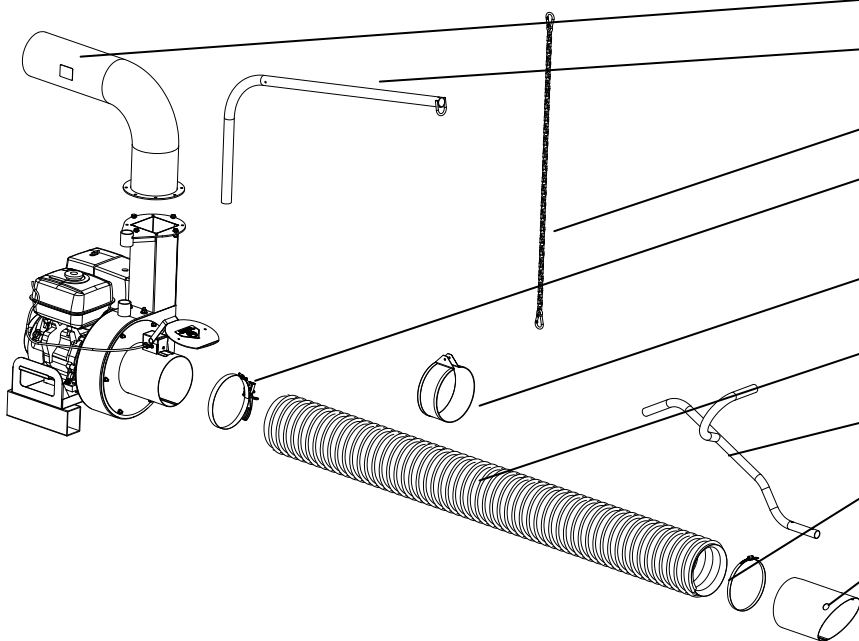
READ all safety instructions before assembling unit.
TAKE CAUTION when removing the unit from the box.



PUT OIL IN ENGINE BEFORE STARTING

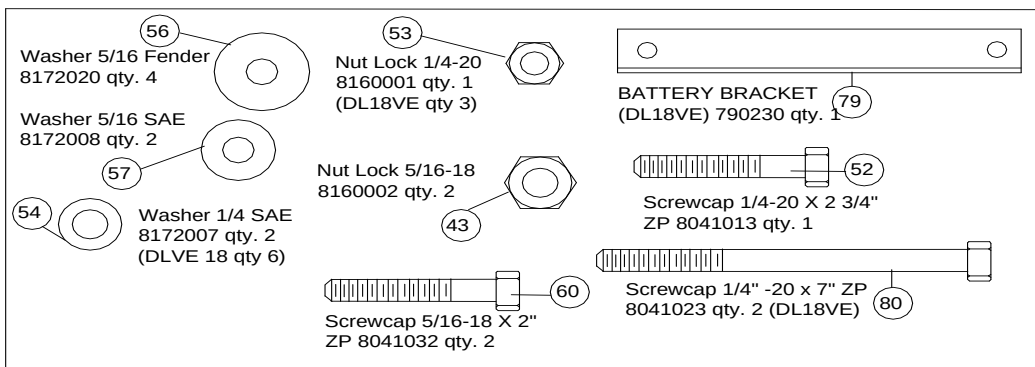
PARTS BAG & LITERATURE ASSY

Warranty card P/N- 400972, Owner's Manual P/N-812379, General Safety and Warnings Manual P/N-100294, Declaration of Conformity P/N-791090.



Boxing Parts Checklist

- ☐ Exhaust Elbow PN# 812248-S qty 1
- ☐ Hose Boom Assembly PN# 812245 qty 1
- ☐ Boom Chain PN# 791117
- ☐ Hose quick clamp 8" PN# 812254 qty 1
or Hose quick clamp 10" PN# 791064 qty 1
- ☐ Band hose boom 8" PN# 810880 qty 1
or Band hose boom 10" PN# 810868 qty 1
- ☐ Hose 8"x 10' DL PN# 811244 qty 1
or Hose 10"x 10' DL PN# 791033 qty 1
- ☐ Handle Nozzle PN# 791116 qty 1
- ☐ Hose clamps 8" PN# 810566 Qty. 1
or Hose clamps 10" PN# 810706-01 qty 1
- ☐ Nozzle DL 8" PN# 811007 qty 1
or Nozzle DL 10" PN#811005 qty 1
- Engine**
 - ☐ LCT 12 HP
 - ☐ Honda 13 HP
 - ☐ Subaru 14 HP
 - ☐ Vanguard 18 HP
 - ☐ Vanguard Electric 18 HP
- ☐ Parts Bag & Literature Assy P/N 812252



**Parts Bag
Hardware**



DL12/13/14/18 Owner's Manual

ASSEMBLY

1. **SECURELY ATTACH** unit to the bed of a truck, trailer, or use the hanging brackets, so that the exhaust discharges into an enclosed container.

NOTE: This unit must be securely mounted to the bed of a truck or to a trailer before operating.

See page 14 for parts diagram to assemble

2. **ATTACH** hose to housing intake, using hose quick clamp (item 8) making sure to place the safety switch under the clamp (see interlock page 12). Then slide the hose onto the housing intake and place the shut off switch under the clamp. Make sure the shut off switch is pressed in or the vacuum will not start, and clamp the hose to the intake.

3. **ASSEMBLE** nozzle handle (item 11), to nozzle (item 10), using screws (item 60), fender washers (item 56), washers (item 57) and lock nuts (item 43).

4. **ATTACH** assembled nozzle to hose using hose clamp (item 9). Before tightening hose clamp, position nozzle handle upward when hose is stretched to prevent twisting load on hose assembly during operation.

5. **ATTACH** the hose boom (item 5) by sliding the boom through the ring on the top of housing and resting it in the cup on the top of the housing.

6. **ASSEMBLE** hose band (item 13) around hose and secure chain between flanges of the hose band using capscrew (item 52), washers (item 54), and lock nut (item 53). To adjust the hose boom height see page 11)

7. **SECURELY ATTACH** exhaust elbow (item 4) to the housing (see MOUNTING on page 10) with the hardware located on the exhaust chute.

8. **INSTALL BATTERY (Electric Models Only)** ⚠ Due to the location of the battery it is recommended that only the specified battery be used on the DL1401SE and DL1801VE. This is due to the heat generated by the muffler and the location of the battery. Using the wrong size battery could result in premature failure, damage to unit or personal injury. The battery needs to be within the specification list on page 3. The U1 group or equivalent is recommended for the DL18VE (**SEE PAGE 3 FOR BATTERY SPECIFICATIONS**)

9. **(Electric Models Only)** Attach the battery cables to the battery and secure it to the unit with the hold down strap.

MOUNTING

MOUNTING: Main unit

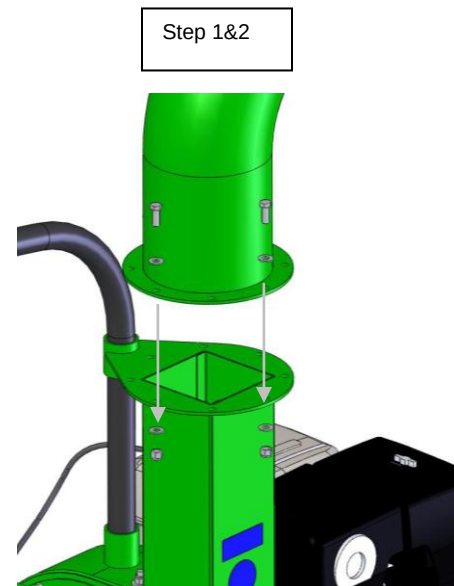
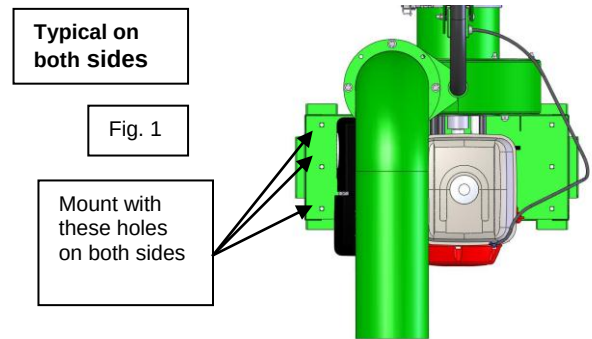
GENERAL: Unit must be securely mounted to a trailer, truck bed, hanging brackets, or other similar surface before use. Do not use this unit in a freestanding position. Unit is not stable until it has been secured in place.

Secure unit by bolting through the base of the unit and through the mounting surface using 3/8" dia. bolts, with washers and locking nuts (see fig. 1)

MOUNTING: Exhaust elbow

Note: this process is easier with two people, one to support the exhaust elbow and one to attach plates and hardware.

- 1) Remove the bolts (item 50), washers (item 51), and nuts (item 41) from the parts bag.
- 2) Place the elbow on top of the housing chute and line up with the holes in the elbow with the housing in the desired position you want the exhaust to go.
- 3) Secure the elbow to the housing with the hardware provided. Make sure the hardware is properly tightened.





VACUUMING OPERATION

IMPORTANT: With the machine off and spark plug disconnected check the condition of the replaceable liner before every use and replace if necessary.

EXHAUST DIRECTION & DISTANCE: Exhaust direction and distance are controlled by the rotation of the exhaust elbow. Typically debris is aimed to discharge to the rear of the container. The direction of discharge is adjusted by rotating the exhaust elbow on the housing and securing with the hardware provided.

NOTE: Elbow is heavy. Use caution when adjusting. Never stand directly under the elbow while adjusting direction of exhaust.

Never direct exhaust into an area where bystanders may cross the path of the debris.

INTAKE OPERATION: With machine running and fully assembled, move the nozzle in sweeping motions over debris. Always allow air to flow into the nozzle along with the debris. Do not completely block the nozzle when vacuuming, it will reduce performance, and increase clogging (See figure 3).

For removal of heavier debris, or debris that is stuck to the ground, rock nozzle forward to concentrate suction power around the debris (See figure 4).

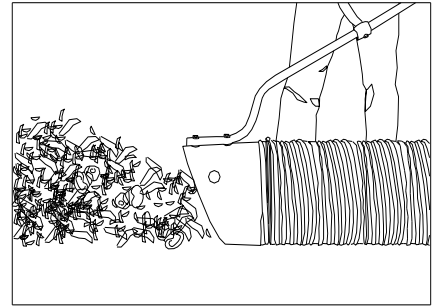


Fig. 3

ADJUSTING HOSE BOOM

Properly adjusting the boom will prevent most hose clogs from occurring and will maximize vacuum performance by keeping the hose straight and perpendicular to the housing (see fig. 5). Height adjustments are made by raising or lowering one of the attachment links to a different area on the chain.

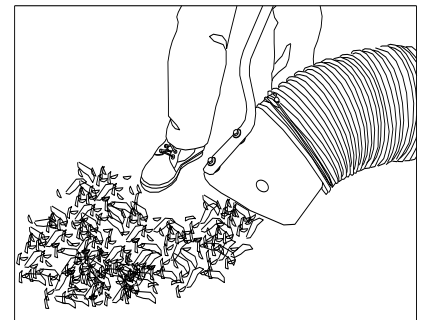


Fig. 4

UNCLOGGING A CLOGGED HOSE

With engine running and unit secured to a trailer, truck bed, or other similar surface, fully stretch hose in a straight line to dislodge the clog. If the clog will not clear, turn unit off, and allow engine to come to a complete stop. Remove hose and manually clear hose clog. **NOTE:** The clogged debris may be sharp. Always wear durable gloves when removing clog.

UNCLOGGING A CLOGGED HOUSING OR EXHAUST ELBOW

Turn engine off and wait for impeller to come to a complete stop. Disconnect spark plug wires and battery cables. Remove the hose from the housing and determine where the clog is located. If possible clear the clog through the intake opening. It may require removal of the intake adaptor (item 16) to allow access to clear the housing. If clog is in the elbow, carefully remove the elbow. Remove elbow by removing the bolts and nuts on the elbow clamp so that the plates can be removed.

NOTE: Elbow is very heavy. Do not stand directly under elbow during removal.

Danger, the clog may contain sharp materials. Wearing durable gloves, clear the clog. Reconnect spark plug wire.

HOSE CARE AND TIPS

To increase hose life, periodically rotate hose and reposition nozzle and coupler on front plate of unit. This increases hose life by keeping hose from wearing only on one side.

Keep hose as straight as possible and avoid sharp bends during operation for best pick-up and to avoid clogs.

Never drag hose. Always remove and store hose before transporting unit.

Store hose straight and flat to maintain flexibility for next use.

THE HOSE IS A REPLACEABLE WEAR ITEM.

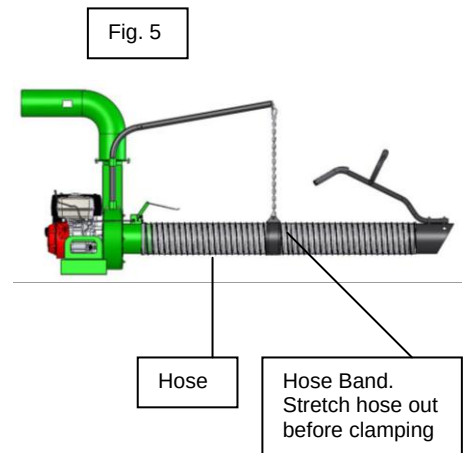


Fig. 5

HOSE STORAGE: Storing hose in a covered area, out of sunlight and heat will prolong hose life. Do not store hose where it could be stepped on or where other objects could crush or damage hose.

MAINTENANCE

PERIODIC MAINTENANCE

Periodic maintenance should be performed at the following intervals:

Maintenance Operation	Every use	Every 5 hours (daily)	Every 10 Hours	Every 25 Hours
Inspect for loose, worn or damaged parts.		•		
Check engine oil and air filter	•			
Check removable liner	•			
Clean hose	•			
Engine (See Engine Manual)				
Inspect battery for damage or leak			•	
Keep engine free of debris	•			
Check battery terminal for corrosion				•
Check for excessive vibration		•		

IMPELLER REMOVAL

1. Wait for engine to cool and disconnect spark plug wires from the engine.
 2. Remove the hose from the unit.
 3. Unattach the hose from boom assembly.
 4. Remove the intake housing assembly (item 16) by removing (6) locknuts (item 44). Be careful to place intake assembly to the side without putting excess strain on safety switch wire harness
 5. Remove impeller bolt (item 34), lock washer (item 35), and spacer (item 37) using 5/8" socket and impact wrench (see fig. 6).
 6. Once bolt is removed impeller should slide out freely. If the impeller doesn't slide off freely use penetrating oil and work the hub off using a pry bar. Do not use the pry bar on the impeller plate.
 7. When impeller is free of the engine shaft, align impeller with the opening and pull it straight out of the housing.
 8. Using a new impeller bolt, washer, and lock washer, install new impeller in reverse order.
- Note:** Be sure that the key is in place on the engine shaft before installing impeller.
9. Tighten impeller bolt. Torque the impeller bolt to [33-38 Ft. Lbs. (45-52 N.m)]
 10. Repeat steps 2 through 5 in reverse order.
 11. Reinstall spark plug wires.

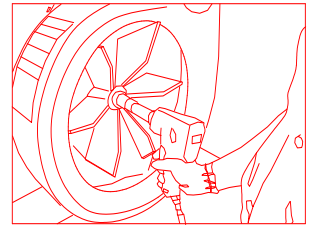
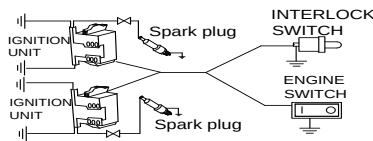


Fig. 6

INTERLOCK SYSTEM

With hose coupler installed (as shown in Fig. 8) the switch is open & engine is not grounded out, allowing engine to run.

DL1801V SYSTEM



DL1801VE SYSTEM

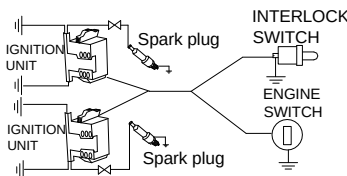
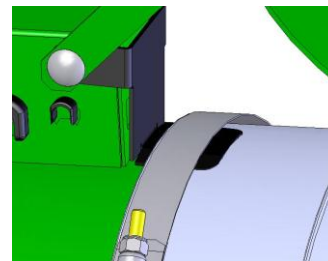
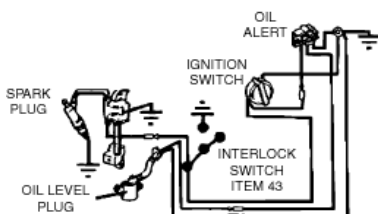


Fig. 8

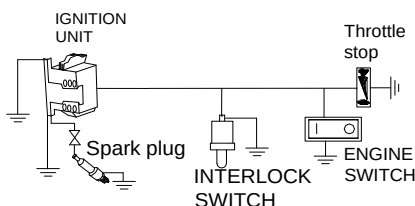


Hose must be installed and switch lever must engage switch for engine to start.

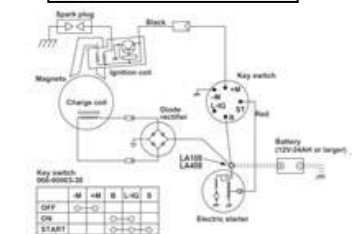
DL1301H SYSTEM



DL1201L SYSTEM



DL1401SE SYSTEM





Battery Care (For Electric-Starting Models)

Proper care can extend the life of a battery. Follow these recommendations to ensure your battery's best performance and long life:

- Do not allow the battery charge to get too low. If the machine is not used, charge the battery every 4 – 6 weeks. Operate the engine for at least 45 minutes to maintain proper battery charge.
- Store an unused battery in a dry area that does not freeze.
- Do not charge an already charged battery. In theory, you cannot overcharge our battery with a trickle charger; however, when a battery is fully charged and the charger is still on, it generates heat that could be harmful to the battery. A fully charged battery will read 12V-13.2V with a voltmeter.
- Do not continue to crank your engine when the battery charge is low.

Charging the Battery

Operate the engine for at least 45 minutes to maintain proper battery charge. If the battery loses its charge, you will need to use a trickle charger to recharge it. **Caution:** The charger should have an output of 12 volts at no more than 2 amps. Using a charger with higher amps will cause significant damage to the battery.

- At 1 amp, the battery may need charging for as long as 48 hours.
- At 2 amps, the battery may need charging for as long as 24 hours.

NOTE: Using the Recoil Starter and then running the engine will not recharge a dead or significantly discharged battery.

WHEN YOU ARE FINISHED CHARGING THE BATTERY, DISCONNECT THE CHARGER FROM THE OUTLET FIRST, THEN DISCONNECT THE BATTERY CHARGER WIRES FROM THE BATTERY. IF YOU LEAVE THE BATTERY CHARGER WIRES CONNECTED TO THE BATTERY, THE BATTERY WILL DISCHARGE ITSELF BACK INTO THE CHARGER.

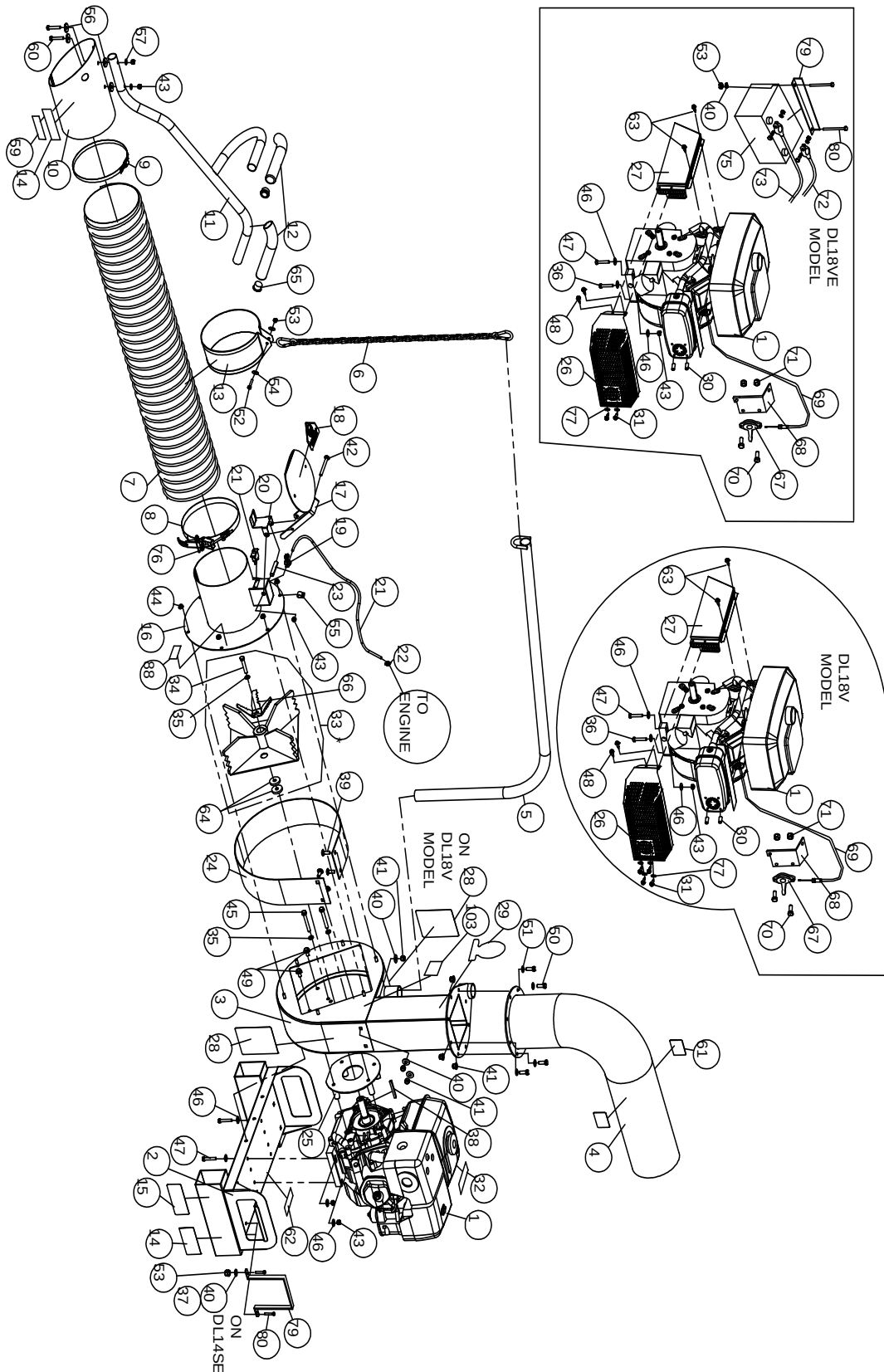


DL12/13/14/18 Owner's Manual

Troubleshooting

Problem	Possible Cause	Solution
Abnormal vibration.	Loose or out of balance impeller or loose engine	Check impeller and replace if necessary. Check engine.
Will not vacuum or has poor vacuum performance	· Nozzle buried in debris. Clogged hose or exhaust. Excessive quantity of debris.	· Withdraw nozzle from debris pile. Unclog hose or exhaust (see pg. 11) Allow air to feed debris.
Engine will not start.	· Throttle & / or stop switch in off position. Out of gasoline. Bad or old gasoline. Spark plug wire disconnected. Harness wire is bad or disconnected from interlock switch. Hose not installed, allowing interlock wire to ground. Dirty air cleaner.	· Check stop switches, throttle, and gasoline. Connect spark plug wire. Clean or replace air cleaner. Install hose coupler securely to the unit and check whether interlock switch is engaged by lever. Check harness wire connection and replace if necessary.
Engine is locked, will not pull over.	· Debris locked against impeller. Engine problem.	· See pg.11, Clearing a clogged impeller housing. Contact an engine servicing dealer for engine problems.

PARTS DRAWING DL





DL12/13/14/18 Owner's Manual

PARTS LIST

ITEM NO.	DESCRIPTION	DL1201L PART NO.	QTY	DL1301H PART NO.	QTY	DL1401SE PART NO.	QTY	DL1801V PART NO.	QTY	DL1801VE PART NO.	QTY
1	ENGINE LCT	811250	1	-	-	-	-	-	-	-	-
	ENGINE HONDA	-	-	430366	1	-	-	-	-	-	-
	ENGINE VANGUARD	-	-	-	-	-	-	812240	1	-	-
	ENGINE VANGUARD ELECTRIC	-	-	-	-	-	-	-	-	812241	1
	ENGINE SUBARU ELECTRIC	-	-	-	-	812369	1	-	-	-	-
2	BASE ENGINE WA	812100-S	1	812100-S	1	812100-S	1	812100-S	1	812100-S	1
3	HOUSING WA DL12/13 W/LABELS	812216-S	1	812216-S	1	-	-	-	-	-	-
	HOUSING WA DL18 W/LABELS	-	-	-	-	812101-S	1	812101-S	1	812101-S	1
4	ELBOW ASSY 7" DL	812248-S	1	812248-S	1	812248-S	1	812248-S	1	812248-S	1
5	BOOM WA DL	812245	1	812245	1	812245	1	812245	1	812245	1
6	CHAIN HOSE HANG DL	791117	1	791117	1	791117	1	791117	1	791117	1
7	HOSE 8"X10"	811244	1	811244	1	-	-	-	-	-	-
	HOSE 10" X 10"	-	-	-	-	791033	1	791033	1	791033	1
8	CLAMP QUICK RELEASE 8"	812254	1	812254	1	-	-	-	-	-	-
	CLAMP QUICK RELEASE 10"	-	-	-	-	791064	1	791064	1	791064	1
9	CLAMP HOSE 8"	810566	1	810566	1	-	-	-	-	-	-
	CLAMP HOSE 10"	-	-	-	-	810706-01	1	810706-01	1	810706-01	1
10	NOZZLE 8" STEEL FORMED W/LABELS	811007-S	1	811007-S	1	-	-	-	-	-	-
	NOZZLE 10" STEEL FORMED W/LABELS	-	-	-	-	811005-S	1	811005-S	1	811005-S	1
11	HANDLE NOZZLE WA DEBRIS LOADER	791116	1	791116	1	791116	1	791116	1	791116	1
12	GRIP 1 1/4 I.D. X 9.5 LONG	440146	2	440146	2	440146	2	440146	2	440146	2
13	BAND HOSE BOOM 8" FORMED	810880	1	810880	1	-	-	-	-	-	-
	BAND HOSE BOOM 10" FORMED	-	-	-	-	810868	1	810868	1	810868	1
14	LABEL WARNING ENGINE OVERHEAT	811215	2	811215	2	811215	2	811215	2	811215	2
15	LABEL SPARK ARRESTOR	100252	1	100252	1	100252	1	100252	1	100252	1
16	PLATE FRONT WA DL 8"	812104-S	1	812104-S	1	-	-	-	-	-	-
	PLATE FRONT WA DL 10"	-	-	-	-	812103-S	1	812103-S	1	812103-S	1
17	FLAPPER WA 8" W/LABELS	812230-S	1	812230-S	1	-	-	-	-	-	-
	FLAPPER WA 10" W/LABELS	-	-	-	-	791102-S	1	791102-S	1	791102-S	1
18	LABEL WARNING OPEI	400424	1	400424	1	400424	1	400424	1	400424	1
19	STRAIN RELIEF HEY CO 1244	500282	1	500282	1	500282	1	500282	1	500282	1
20	LEVER HOSE SWITCH	791068	1	791068	1	791068	1	791068	1	791068	1
21	SWITCH AND HARNESS DL ASSY	791130	1	791130	1	791130	1	791130	1	791130	1
22	CONNECTOR TAP IN SQUEEZE	810673	1	810673	1	810673	1	-	-	-	-
23	SPACER 3/8" X 2 1/2"	900503	1	900503	1	900503	1	900503	1	900503	1
24	LINER DL12/13	812221	1	812221	1	-	-	-	-	-	-
	LINER DL18	-	-	-	-	812214	1	812214	1	812214	1
25	PLATE ENGINE MOUNT DL12/13	812235	1	812235	1	-	-	-	-	-	-
	PLATE ENGINE MOUNT DL18	-	-	-	-	812320	1	812238	1	812238	1
26	GUARD MUFFLER DL18	-	-	-	-	-	-	812242	1	812242	1
27	GUARD MANIFOLD DL18	-	-	-	-	-	-	812243	1	812243	1
28	LABEL DL INSTRUCTION/WARNING	790142	1	790142	1	790142	1	790142	1	790142	1
29	LABEL LOGO DL12/13/18	812213	1	812213	1	812213	1	812213	1	812213	1
30	SPACER CONTROL LIFT	-	-	-	-	-	-	850198	4	850198	4
31	SCREW SN #10 X 1" TYPE A SLOT HWH	-	-	-	-	-	-	8122066	4	8122066	4
32	LABEL WARNING FUEL EN/SP	100261	1	-	-	-	-	100261	1	100261	1
33*	IMPELLER ASSY (ITEM 66 NOT INCLUDED)	812257-S	1	812257-S	1	-	-	-	-	-	-
	IMPELLER ASSY (ITEM 66 NOT INCLUDED)	-	-	-	-	810930	1	810930	1	810930	1
34	SCREWCAP 3/8"-24 X 2 3/4" GR 8. W/PATCH	790167	1	790167	1	-	-	-	-	-	-
	SCREWCAP 3/8"-24 X 2 1/4" GR 8.	-	-	-	-	-	-	810932	1	810932	1
	SCREWCAP 3/8"-24 X 2" GR 8. W/PATCH	-	-	-	-	440237	1	-	-	-	-
	TORQUE 33-38 FT LBS. (45-52 N.m)	-	-	-	-	-	-	-	-	-	-
35	WASHER LOCK 3/8"	8177012	5	8177012	5	8177012	5	8177012	5	8177012	5



DL12/13/14/18 Owner's Manual

ITEM NO.	DESCRIPTION	DL1201L PART NO.	QTY	DL1301H PART NO.	QTY	DL1401SE PART NO.	QTY	DL1801V PART NO.	QTY	DL1801VE PART NO.	QTY
36	SCREWCAP 5/16-18 X 2" HCS ZP	-	-	-	-	-	-	8041032	2	8041032	2
37	WASHER 1/4" ZP	-	-	-	-	8171002	2	-	-	-	-
38	KEY 1/4 SQ X 2 3/4"	9201125	1	9201125	1	-	-	9201125	1	9201125	1
	KEY 1/4 SQ X 3 1/4	-	-	-	-	9201128	1	-	-	-	-
39	BOLT CARRIAGE 3/8 - 16 X 1" ZP	8024058	4	8024058	4	8024058	4	8024058	4	8024058	4
40	WASHER 3/8 FLAT CUT	8171004	4	8171004	4	8171004	6	8171004	4	8171004	4
41	NUT LOCK 3/8-16 HEX ZP	8160003	8	8160003	8	8160003	8	8160003	8	8160003	8
42	BOLT CARRIAGE 5/16" - 18 X 3 1/2" ZP	8024050	1	8024050	1	8024050	1	8024050	1	8024050	1
43	NUT LOCK 5/16-18 HEX ZP	8160002	7	8160002	7	8160002	7	8160002	7	8160002	7
44	NUT FLANGE 5/16-18 HEX ZP	350346	6	350346	6	350346	6	350346	10	350346	10
45	SCREWCAP 3/8-16 X 3" HCS ZP	8041058	4	8041058	4	-	-	-	-	-	-
	SCREWCAP 3/8-16 X 1 3/4" HCS ZP	-	-	-	-	8041053	4	8041053	4	8041053	4
46	WASHER 5/16 FLAT ZP	8171003	8	8171003	8	8171003	8	8171003	8	8171003	8
47	SCREWCAP 5/16-18 X 1 3/4" HCS ZP	8041031	4	8041031	4	8041031	4	8041031	2	8041031	2
48	SCREW SM 1/4 X 3/4" TYPE AB HX WF	-	-	-	-	-	-	890359	2	890359	2
49	HEX WASHER FACE BOLT 3/8-16 X 3/4	791080	3	791080	3	791080	3	791080	3	791080	3
50	SCREWCAP 3/8-16 X 1" HCS ZP	8041050	4	8041050	4	8041050	4	8041050	4	8041050	4
51	WASHER 3/8 SAE	8172009	8	8172009	8	8172009	8	8172009	8	8172009	8
52	SCREWCAP 1/4"-20 X 2 3/4" HCS ZP	8041013	1	8041013	1	8041013	1	8041013	1	8041013	1
53	NUT LOCK 1/4-20 HEX ZP	8160001	1	8160001	1	8160001	3	8160001	1	8160001	3
54	WASHER 1/4-20 HEX ZP	8172007	2	8172007	2	8172007	2	8172007	2	8172007	2
55	CLAMP HOSE FUEL LINE	791070	2	791070	2	791070	2	791070	2	791070	2
56	WASHER FENDER 5/16	8172020	4	8172020	4	8172020	4	8172020	4	8172020	4
57	WASHER 5/16 SAE	8172008	2	8172008	2	8172008	2	8172008	2	8172008	2
58											
59	LABEL SECURE NOZZLE	790301	1	790301	1	790301	1	790301	1	790301	1
60	SCREWCAP 5/16" - 18 X 2"	8041032	2	8041032	2	8041032	2	8041032	2	8041032	2
61	LABEL FLYING DEBRIS	810736	2	810736	2	810736	2	810736	2	810736	2
62	WARNING SECURE	790232	1	790232	1	790232	1	790232	1	790232	1
63	BOLT 1/4"-20 X 1/2" SER FLANGE	-	-	-	-	-	-	812381	2	812381	2
64	SPACER 1" ID X 2" OD X 0.265 THK	830113	2	830113	2	-	-	-	-	-	-
	SPACER 1" ID X 2" OD X 0.890 THK	-	-	-	-	830112	1	-	-	-	-
65	PLUG TUBE INSERT 1.25 OD	791056	2	791056	2	791056	2	791056	2	791056	2
66	DEBRIS REDUCER DL12/13/18	812283	1	812283	1	812283	1	812283	1	812283	1
67	THROTTLE CONTROL BLOWER	-	-	-	-	-	-	440013	1	440013	1
68	BRACKET MOUNT THROTTLE CONTROL	-	-	-	-	-	-	812280	1	812280	1
69	CABLE THROTTLE DL18	-	-	-	-	-	-	812281	1	812281	1
70	SCREW MACH FLAT HD PHIL #10-24	-	-	-	-	-	-	830514	2	830514	2
71	NUT LOCK #10-24 HEX	-	-	-	-	-	-	8164005	2	8164005	2
72	CABLE BATTERY RED 36"	-	-	-	-	812282	1	-	-	812282	1
73	CABLE BATTERY BLACK 20"	-	-	-	-	812341	1	-	-	812341	1
74											
75	BATTERY 12 V (NOT SUPPLIED ON DL18, SEE PAGE 3 FOR BATTERY MODEL AND SPECIFICATIONS)	-	-	-	-	812371	1	-	-	REF	REF
76	PIN SAFETY	800365	1	800365	1	800365	1	800365	1	800365	1
77	WASHER LOCK 1/4" EXTERNAL TOOTH	-	-	-	-	-	-	8181007	4	8181007	4
78	TERMINAL PIGGY BACK 3/16"	-	-	-	-	-	-	-	-	890010	1
79	BRACKET BATTERY DL	-	-	-	-	812372	1	-	-	790230	1
80	SCREWCAP 1/4"-20 X 7" HCS ZP	-	-	-	-	-	-	-	-	8041023	2
	BOLT CARRIAGE 1/4"-20 X 1" ZP	-	-	-	-	8024022	2	-	-	-	-
88	LABEL WARNING LINER DL	100330	1	100330	1	100330	1	100330	1	100330	1
103	LABEL MADE IN U.S.A.	520116	1	520116	1	520116	1	520116	1	520116	1