

1" GAS IMPACT WRENCH

Model 95666

ASSEMBLY AND OPERATING INSTRUCTIONS



Due to continuing improvements, actual product may differ slightly from the product described herein.



CAUTION!

Your Warranty Is Voided If:

You do not operate the Gas Impact Wrench with the proper 25:1 fuel mix in its fuel tank.
Never run the Engine with an improper fuel mix, low or no fuel mix.
Running the Engine with an improper fuel mix, low or no fuel mix, will permanently damage the unit.



3491 Mission Oaks Blvd., Camarillo, CA 93011
Visit our Web site at: <http://www.harborfreight.com>

**TO PREVENT SERIOUS INJURY,
READ AND UNDERSTAND ALL WARNINGS
AND INSTRUCTIONS BEFORE USE.**

Copyright © 2007 by Harbor Freight Tools®. All rights reserved. No portion of this manual or any artwork contained herein may be reproduced in any shape or form without the express written consent of Harbor Freight Tools.
For technical questions, please call 1-800-444-3353.

PRODUCT SPECIFICATIONS

Item	Description
Drive Size	1"
Maximum Bolt Capacity	1-5/8"
Output Torque Range	406 < - > 1250 Ft./Lb.
Gear Box Settings	Reverse/Neutral/Forward
Engine Specifications	Engine Type: Two-Stroke / Forced Air Cooling / Single Cylinder / Recoil Start Engine Displacement: 51.7 cc Engine Idling RPM: 2700 Engine No Load RPM: 9880 Engine Torque RPM: 7120 Fuel Tank Capacity: 34 Ounces (0.26 Gal.) Fuel Mixture Required: 25:1 (25 Parts Unleaded Gasoline/1 Part 2-Cycle Oil) Spark Plug Type: Torch ® L7T EPA Approved
Accessories	Side D-Handle (Qty. 1) / Top D-Handle (Qty. 1) / Spark Plug Wrench (Qty. 1) 4mm Hex Wrench (Qty. 1) / 5mm Hex Wrench (Qty. 1) / 6mm Hex Wrench (Qty. 1) 10 < - > 13mm Spanner (Qty. 1)
Net Weight	39.6 Pounds

This product requires a 25:1 ratio of fuel and 2-cycle oil to be added to its fuel tank before starting. Attempting to start the Engine with an improper fuel mix, low or no fuel mix WILL ruin the Engine and void the warranty.

The Engine's Carburetor may need to be adjusted by a qualified mechanic for efficient high-altitude use.

The Emission Control System for this product's engine is warranted for standards set by the U.S. Environmental Protection Agency. For warranty information, refer to the last pages of this manual.

SAVE THIS MANUAL

You will need this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures, parts list and assembly diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep this manual and invoice in a safe and dry place for future reference.

GENERAL SAFETY RULES AND PRECAUTIONS

 **WARNING!**
READ AND UNDERSTAND ALL INSTRUCTIONS
 Failure to follow all instructions listed below may result in electric shock, fire, and/or serious injury.
SAVE THESE INSTRUCTIONS

WORK AREA

1. **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
2.  **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Power tools create

sparks which may ignite the dust or fumes.

3. **Keep bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control. Provide barriers or shields as needed. Children should never be in the work area.

PERSONAL SAFETY

1. **Stay alert. Watch what you are doing, and use common sense when operating a power tool. Do not use a power tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
2. **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
3. **Avoid accidental starting. Be sure the Stop Button (103) is in its “STOP” position before moving the Impact Wrench *and* before performing any service, maintenance, or cleaning procedures on the unit.**
4. **Remove adjusting keys or wrenches before turning the Impact Wrench on.** A wrench or a key that is left attached to a rotating part of the machine may result in personal injury.
5. **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the power tool in unexpected situations.

TOOL USE AND CARE

1. **Do not force the tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.
2. **Do not use the Impact Wrench if the Stop Button (103) does not turn it on or off.** Any tool that cannot be controlled with its Stop Button is dangerous and must be replaced.
3. **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
4. **Maintain tools with care.** Properly maintained tools are less likely to malfunction and are easier to control. Do not use a damaged tool. Tag damaged tools “Do not use” until repaired.

5. **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.
6. **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool may become hazardous when used on another tool.

SERVICE

1. **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.
2. **When servicing a tool, use only identical replacement parts. Follow instructions in the "Inspection, Maintenance, And Cleaning" section of this manual.** Use of unauthorized parts or failure to follow maintenance instructions may create a risk of electric shock or injury.

SPECIFIC SAFETY RULES AND PRECAUTIONS

1.  **IMPORTANT! Your Warranty is voided if:**

You do not operate the Impact Wrench with the proper 25:1 fuel mix in its fuel tank. Never run the Engine with an improper fuel mix, low or no fuel mix. Running the Engine with an improper fuel mix, low or no fuel mix, will permanently damage the unit.

2. **Maintain labels and nameplates on the Impact Wrench.** These carry important information. If unreadable or missing, contact Harbor Freight Tools for a replacement.

3.  **WARNING! Always wear safety equipment.** When operating the Impact Wrench, always wear ANSI approved safety impact eye goggles, hearing protection, heavy duty work gloves, sturdy work boots, and head protection.

4. **Never leave the Impact Wrench unattended when it is running.** Turn off the Engine before leaving.
5. **Do not allow children and other unauthorized people to handle or play with the Impact Wrench.** Children should be kept out of the work area. Also, store the Impact Wrench in a location out of reach of children.

6. **Make sure the Impact Wrench is completely stopped before changing the rotational direction of the tool.**
7. **Always maintain a firm grip on the Impact Wrench with both hands.** Beware of start up torque.
8.  **WARNING! This Impact Wrench is designed for outdoor use only.** Do not operate the Impact Wrench in a closed area or in a poorly ventilated area. **When running, the Engine of this product produces carbon monoxide, a colorless, odorless, toxic gas that, when inhaled, can cause serious personal injury or death.**

FIRE AND EXPLOSION PRECAUTIONS

1.  **Gasoline fuel and fumes are flammable, and potentially explosive.** Use proper fuel storage and handling procedures. Always have multiple ABC class fire extinguishers nearby.
2. **Keep the Impact Wrench and surrounding areas clean at all times.**
3. **When spills of fuel or oil occur, they must be cleaned up immediately.** Dispose of fluids and cleaning materials as per any local, state, or federal codes and regulations. Store oil rags in a covered metal container.
4. **Never store fuel or other flammable materials near the Impact Wrench.**
5. **Do not smoke, or allow sparks, flames, or other sources of ignition around the Impact Wrench.**
6. **Keep grounded conductive objects, such as tools, away from exposed, live electrical parts and connections to avoid sparking or arcing.** These events could ignite fumes or vapors.
7. **Do not refill the Fuel Tank while the Engine is running or while the Engine is still hot.** Do not operate the Impact Wrench with known leaks in the fuel system.
8. **Use only Engine manufacturer recommended fuel and oil.**

MECHANICAL PRECAUTIONS

1. **Prior to performing service, maintenance, or cleaning procedures, always make sure the Stop Button (103) is in its “STOP” position. Allow the Engine to completely cool. Then, remove the spark plug from the Engine.**
2. **Do not alter or adjust any part of the Impact Wrench or Engine that is**

assembled and supplied by the manufacturer.

3. **Always follow and complete scheduled Impact Wrench and Engine maintenance.**

CHEMICAL PRECAUTIONS

1. **Avoid contact with hot fuel, oil, exhaust fumes, and solid surfaces.**
2. **Avoid body contact with fuels, oils, and lubricants used in the Impact Wrench and Engine.** If swallowed, seek medical treatment immediately. Do not induce vomiting if fuel is swallowed. For skin contact, immediately wash with soap and water. For eye contact, immediately flush eyes with clean water.

NOISE PRECAUTIONS

1. **Prolonged exposure to high noise levels is hazardous to hearing.** Always wear ANSI approved hearing protection when operating or working around the Impact Wrench when it is running.

MISC. PRECAUTIONS

1.  **WARNING!** People with pacemakers should consult their physician(s) before use. Electromagnetic fields in close proximity to a heart pacemaker could cause pacemaker interference or pacemaker failure. Caution is necessary when near the Engine's magneto or recoil starter.
2.  **WARNING!** The warnings and cautions discussed in this manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

SAVE THESE INSTRUCTIONS

UNPACKING

When unpacking, check to make sure all the parts shown on the **Parts Lists on pages 13, 15, 17, 18, and 19** are included. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the cover of this manual as soon as possible.

PRODUCT FEATURES

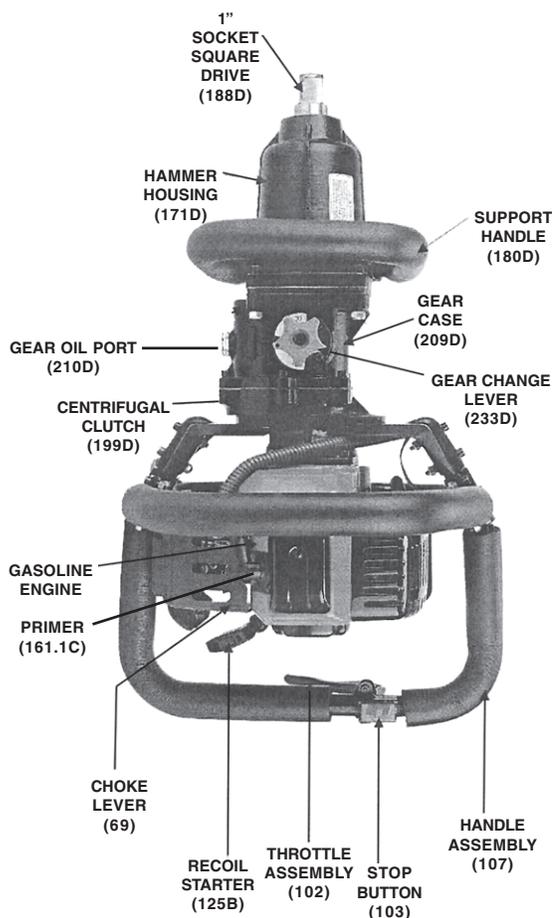


FIGURE A

PRE-START INSTRUCTIONS

To Fill The Fuel Tank:

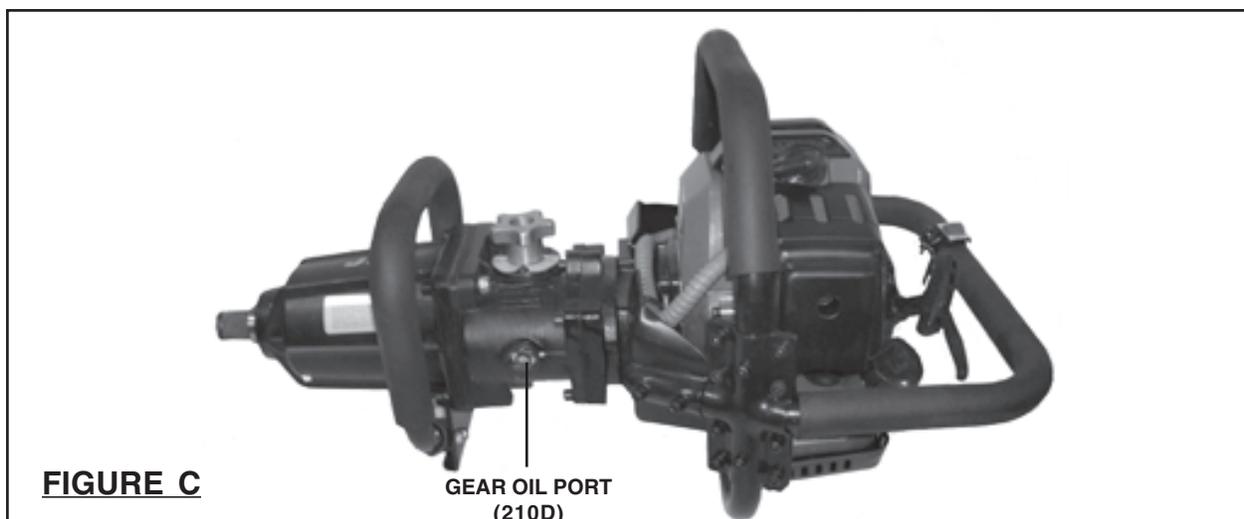
1. **IMPORTANT! Your warranty is voided if:**
You do not operate the Impact Wrench with the proper 25:1 fuel mix in its Fuel Tank. Never run the Engine with an improper fuel mix, low or no fuel mix. Running the Engine with an improper fuel mix, low or no fuel mix will permanently damage the unit.
2. To obtain the proper **25:1** fuel mix, combine **25 parts unleaded gasoline with 1 part 2-cycle oil** in a clean, approved container. Cover and shake to thoroughly mix before each fueling. **NOTE:** Mix only enough fuel for a few days work. The maximum storage time of mixed fuel is *three* months.
3. Once the proper fuel mix is obtained, unscrew and remove the Tank Cap (93).

4. Fill the Fuel Tank approximately 3/4 full with the fuel mix (the Fuel Tank capacity is approximately 34 ounces). Then, replace the Tank Cap (93). **(See Figure B.)**
5.  **WARNING! NEVER** attempt to fill the Fuel Tank when the Engine is running or hot to the touch.



To Fill The Gear Case With Gear Oil:

1. Prior to each use of the Impact Wrench, the Gear Case (209D) must be checked and, if necessary, filled with clean #10 gear oil. To check the level of gear oil in the Gear Case, observe the Gear Oil Port (210D) window located on the side of the Gear Case. The gear oil level should be centered in the window. If the level is lower than the center of the window, add #10 gear oil until its level is centered in the window. **(See Figure C.)**



OPERATING INSTRUCTIONS

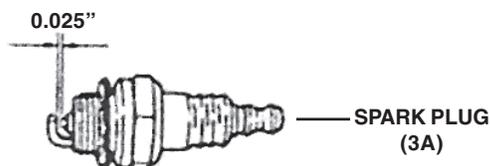
1.  **WARNING!** Always wear safety equipment. When operating the Impact Wrench, always wear ANSI approved safety impact eye goggles, hearing protection, heavy duty work gloves, sturdy work boots, and head protection.
2. Select the desired size socket (not included) and firmly insert the socket onto the 1" Square Socket Drive (188D). **(See Figure A.)**
3. Place the Impact Wrench on a firm stand or solid floor.
4. Set the Gear Change Lever (233D) to its “**NEUTRAL**” position. **(See Figure A.)**
5. Slide the Stop Button (103) upward to its “**START**” position. **(See Figure A.)**
6. Move the Throttle Assembly (102) to its “**IDLE**” position. **(See Figure A.)**
7. Press the Primer (161.1C) several times to force fuel into the Engine’s Carburetor. **(See Figure A.)**
8. Turn the Choke Lever (69) to its “**CLOSED**” position. **(See Figure A.)**
9. Pull sharply on the Recoil Starter (125B), and allow the Recoil Starter to return to its original position. **(See Figure A.)**
10. Once the Engine starts, slowly return the Choke Lever (69) to its “**OPEN**” position. **(See Figure A.)**
11. **NOTE:** Should the Engine fail to start, repeat Steps #6 through #9.
12. After starting the Engine, allow the Engine about 2 to 3 minutes to warm up before use.
13.  **WARNING!** Before and during operation, always grip the Impact Wrench with both hands to brace for Engine torque. Also, maintain a firm stance to keep from slipping or falling down.
14. Insert the previously installed socket onto the bolt or nut that is to be loosened or tightened.
15. Use the Gear Change Lever (233D) to select the desired rotation (forward/reverse) of the tool. Select “**R**” for *clockwise* rotation or “**L**” for *counterclockwise* rotation. **(See Figure A.)**

16. **IMPORTANT:** To avoid damage to the internal gears, do not change the rotation (forward/reverse) of the tool when accelerating the Engine. Change the rotation only when the Engine is at idle.
17. Squeeze the Throttle Assembly (102) for high speed to loosen or tighten the bolt or nut. **(See Figure A.)**
18. Once the bolt or nut is loosened or tightened, release the Throttle Assembly (102) to allow the Engine to return to idle speed. **(See Figure A.)**
19. Slide the Stop Button (103) downward to its “**STOP**” position. **(See Figure A.)**
20. Place the Impact Wrench on a firm stand or solid floor. Then, set the Gear Change Lever (233D) to its “**NEUTRAL**” position. **(See Figure A.)**
21. Allow the Engine of the Impact Wrench to completely cool. Then store the tool in a clean, dry, safe location out of reach of children and other unauthorized people.

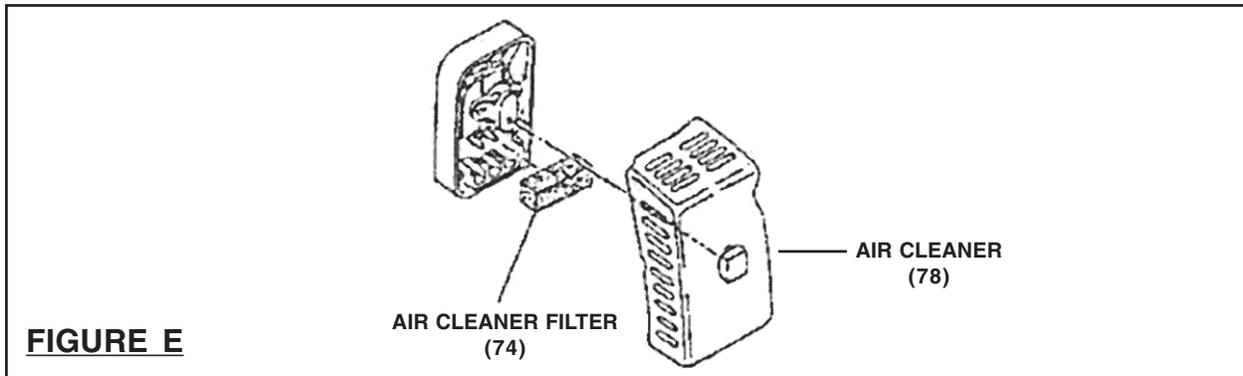
INSPECTION, MAINTENANCE, AND CLEANING

1.  **WARNING!** Always make sure the Stop Button (103) is in its “**STOP**” position and the Spark Plug (3A) is removed prior to performing any service, maintenance, or cleaning of the Impact Wrench.
2. **Before each use:** Inspect the general condition of the Impact Wrench. Check misalignment or binding of moving parts, cracked or broken parts, and any other condition that may affect the safe operation of the tool. If abnormal noise or vibration occurs, have the problem corrected before further use.
Do not use damaged equipment.
3. **Impact unit and Gear Case (209D) maintenance:** Prior to each use, check the Gear Oil Port (210D) for proper gear oil level. If necessary, refill the Gear Case with #10 gear oil. **(See page 8 and Figure C.)**
4. **Spark Plug (3A) maintenance:** The condition of the Spark Plug should be checked every six months or 100 hours of tool use. If necessary, reset the gap and clean the old Spark Plug or gap and replace with a new Spark Plug. **(See Figure D.)**

FIGURE D



5. **Air Cleaner (78) maintenance:** The Air Cleaner should be checked prior to each use of the Impact Wrench for excessive dirt and debris build-up. Thereafter, the Air Cleaner should be cleaned or replaced every three months or 50 hours of tool use. To do so, remove the cover of the Air Cleaner to expose the Air Cleaner Filter (74). Remove the Air Cleaner Filter and rinse the Filter in warm, soapy water. Squeeze the Filter to remove the soapy water, and allow the Filter to dry. Then replace the Filter and the cover of the Air Cleaner. **(See Figure E.)**



6. **To clean the Impact Wrench:** Use only a clean cloth and mild detergent. Do not use solvents as doing so may damage the finish of the tool. Do not introduce liquids into the internal parts of the Engine and Carburetor.
7. **When storing the Impact Wrench:** Before storing, drain all fuel out of the tool's Fuel Tank. If this is not followed, old fuel in the Fuel Tank may clog the Carburetor and prevent the tool from starting until cleaned out. **Then store the tool in a clean, dry, safe location out of reach of children and other unauthorized people.**
8. **⚠ CAUTION!** All maintenance, service, or repairs not mentioned in this manual must only be performed by a qualified service technician.

TROUBLESHOOTING

Problem	Possible Solution
Engine will not start.	<ol style="list-style-type: none"> 1. Make sure Fuel Tank is filled with a 25:1 fuel mixture. 2. Make sure Stop Button is in its "START" position. 3. Engine "flooded" with too much fuel mixture. Remove Spark Plug. Set Choke Lever to its "OPEN" position. Pull Recoil Starter several times to exhaust excess fuel from the Engine cylinder. Replace Spark Plug and restart Engine. 4. Choke Lever in wrong position.
Engine stops soon after starting.	<ol style="list-style-type: none"> 1. Make sure Fuel Tank is filled with a 25:1 fuel mixture. 2. Make sure Choke Lever is in its "OPEN" position.
Engine overheats.	<ol style="list-style-type: none"> 1. Make sure Fuel Tank is filled with a 25:1 fuel mixture. 2. Make sure the Spark Plug is of the proper size and type. 3. Make sure the Engine cylinder cooling fans are clean.
Drive Socket does not rotate.	Make sure the Gear Change Lever is set on "R" for clockwise rotation or "L" for counterclockwise rotation.
Output power reduced.	Make sure Air Cleaner is free of dirt and debris.
Stop Button will not turn off Engine.	Immediately pull the Spark Plug Wire from the Spark Plug to stop Engine. Do not operate the Impact Wrench until a qualified service technician inspects the tool for damage and/or defects.

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISKS AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

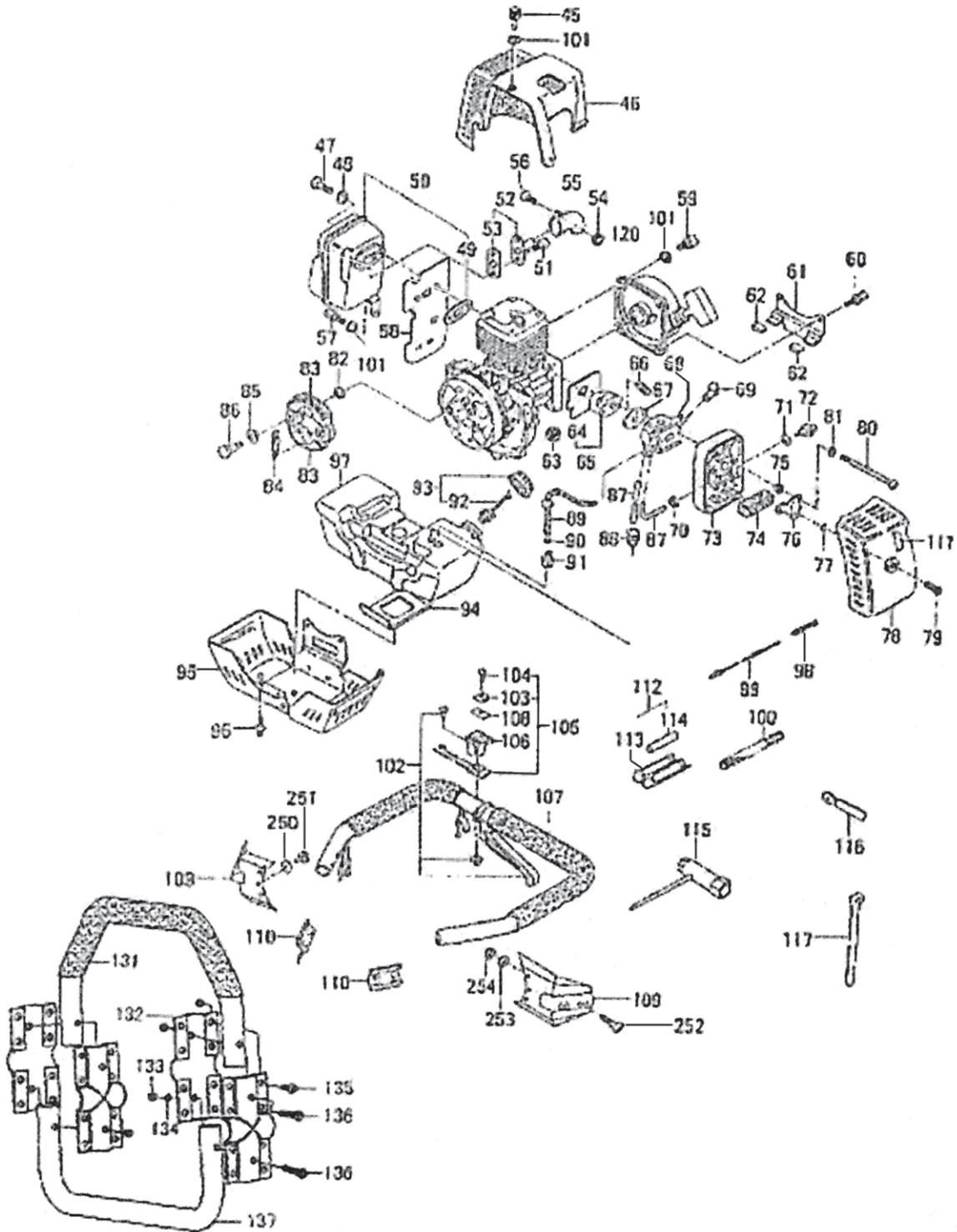
PARTS LIST - ENGINE COMPONENTS

Part #	Description	Qty.	Part #	Description	Qty.
45	Hex Hole Bolt (5 x 12S)	1	88	Return Grommet	1
46	Muffler Protector	1	89	Fuel Pipe Assy. (3 x 5 x 230)	1
47	Hex Hole Button Screw (6 x 65)	2	90	Clip (6.3)	1
48	Washer (6)	2	91	Pump Filter Body Assy.	1
49	Muffler Gasket	1	92	Tank Cap Chain	1
50	Muffler Set	1	93	Tank Cap	1
51	Screw (4 x 8S)	2	94	Rubber Cushion	1
52	Tail Pipe Set	1	95	Tank Holding Metal	1
53	Muffler Special Gasket	1	96	Hex Hole Bolt (5 x 15SW)	2
54	Hex Nut (4)	1	97	Fuel Tank (Vermillion)	1
55	Tail Pipe	1	98	Adjust Spring	1
56	Screw (4 x 12)	1	99	Throttle Wire	1
57	Hex Hole Bolt (5 x 12S)	1	100	Split Protection Tube (10 x 200L)	1
58	Heat Shield	1	101	Washer (5)	1
59	Hex Hole Bolt (5 x 25S)	2	102	Throttle Assy.	1
60	Hex Hole Bolt (5 x 20PS)	2	103	Stop Button	1
61	Tank Bracket	1	104	Screw (3 x 10)	1
62	Fuel Tank Rubber Cushion	2	105	Stop Switch Assy.	1
63	Fuel Tank Rubber Cushion	2	106	Stop Button Bracket	1
64	Inlet Manifold Gasket	1	107	Handle Assy.	1
65	Carburetor Insulator Set	1	108	Stop Button Mark	1
66	Hex Hole Bolt (5 x 25WS)	2	109	Handle Bracket	2
67	Carburetor Gasket	1	110	Handle Holder	2
68	Carburetor Set	1	111	Choke Mark	1
69	Choke Lever	1	112	Connector Case Assy.	1
70	Nut (10)	1	113	Connector Case	1
71	Inner Toothed Washer (10)	1	114	Connector Sleeve	1
72	Priming Pump	1	115	Combination Box Spanner (10 x 19)	1
73	Air Cleaner Body	1	116	Cord Clamp	2
74	Air Cleaner Filter	1	117	Cord Clamp	1
75	Collar (5.8)	2	120	Recoil Starter Body Assy.	1
76	Blow Over Check Board	1	131	Anti-Vibration Rubber	1
77	O-Ring (P-3)	1	132	4-Sides Handle Holder	4
78	Air Cleaner Cover	1	133	U-Nut (M6)	20
79	Air Cleaner Cover Bolt	1	134	Spring Washer (M6)	20
80	Screw (5 x 60)	2	135	Hex Cap Bolt (M6 x 20)	16
81	Washer (5)	2	136	Hex Cap Bolt (M6 x 35)	4
82	Clutch Washer (8)	2	137	Kickstand	1
83	Clutch Arm	2	250	Spring Washer (M6)	6
84	Clutch Spring	1	251	Hex Cap Bolt (M6 x 12)	6
85	Wave Washer (10)	2	252	Hex Cap Bolt (M6 x 35)	4
86	Clutch Step Bolt	2	253	Jagged Spring Washer (2H-M6)	4
87	Fuel Pipe (2.5 x 4 x 90)	2	254	U-Nut (M6)	4

NOTE:

Some parts are listed and shown for illustration purposes only,
and are not available individually as replacement parts.

ASSEMBLY DIAGRAM - ENGINE COMPONENTS



NOTE:

Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

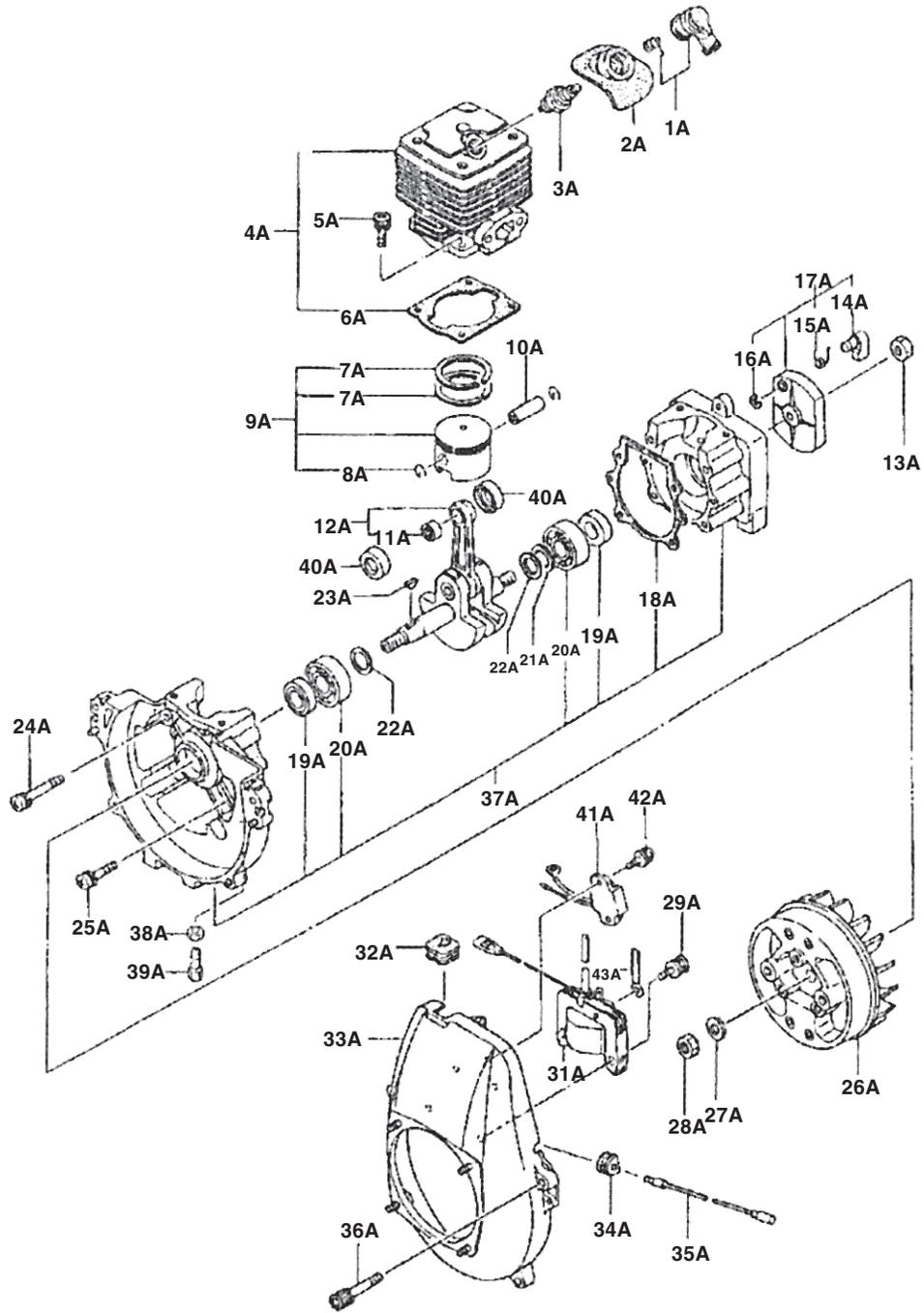
PARTS LIST - ENGINE

Part #	Description	Qty.	Part #	Description	Qty.
1A	Spark Plug Cap Assy.	1	21.3A	Crank Shaft Shim (0.20)	1
2A	Spark Plug Rubber Cover	1	21.4A	Crank Shaft Shim (0.30)	1
3A	Spark Plug (BPMR6A)	1	22A	Crank Shaft Washer (15.2 x 22)	2
4A	Cylinder Set	1	23A	Woodruff Key (3 x 13 x 5)	1
5A	Hex Hole Bolt (5 x 18S)	4	24A	Screw (6 x 45S)	2
6A	Cylinder Gasket	1	25A	Screw (6 x 30)	2
7A	Piston Ring	2	26A	Magneto	1
8A	Piston Pin Circlip	2	27A	Small Washer (10)	1
9A	Piston Set	1	28A	Nut (10)	1
10A	Piston Pin	1	29A	Screw (5 x 18WS)	3
11A	Needle Bearing (2 x 8.8)	1	31A	Ignition Coil	1
12A	Crank Shaft	1	32A	Primary Cord Grommet	1
13A	Small Nut (10)	1	33A	Fan Case	1
14A	Starter Pawl	1	34A	Primary Cord Grommet	1
15A	Starter Pawl Spring	1	35A	Stop Cord	1
16A	Stop Ring (E-5)	1	36A	Hex Hole Bolt (6 x 20S)	4
17A	Starter Pulley	1	37A	Crank Case Assy.	1
18A	Crank Case Gasket	1	38A	Nut (6)	1
19A	Oil Seal (15257)	2	39A	Outer Receiver	1
20A	Ball Bearing (6202, 35mm O.D.)	2	40A	Piston Pin Collar	2
21A	Crank Shaft Shim (0.05)	1	41A	Ignition	1
21.1A	Crank Shaft Shim (0.10)	1	42A	Screw (5 x 14PS)	2
21.2A	Crank Shaft Shim (0.15)	1	43A	Cord Clamp	1

NOTE:

Some parts are listed and shown for illustration purposes only,
and are not available individually as replacement parts.

ASSEMBLY DIAGRAM - ENGINE

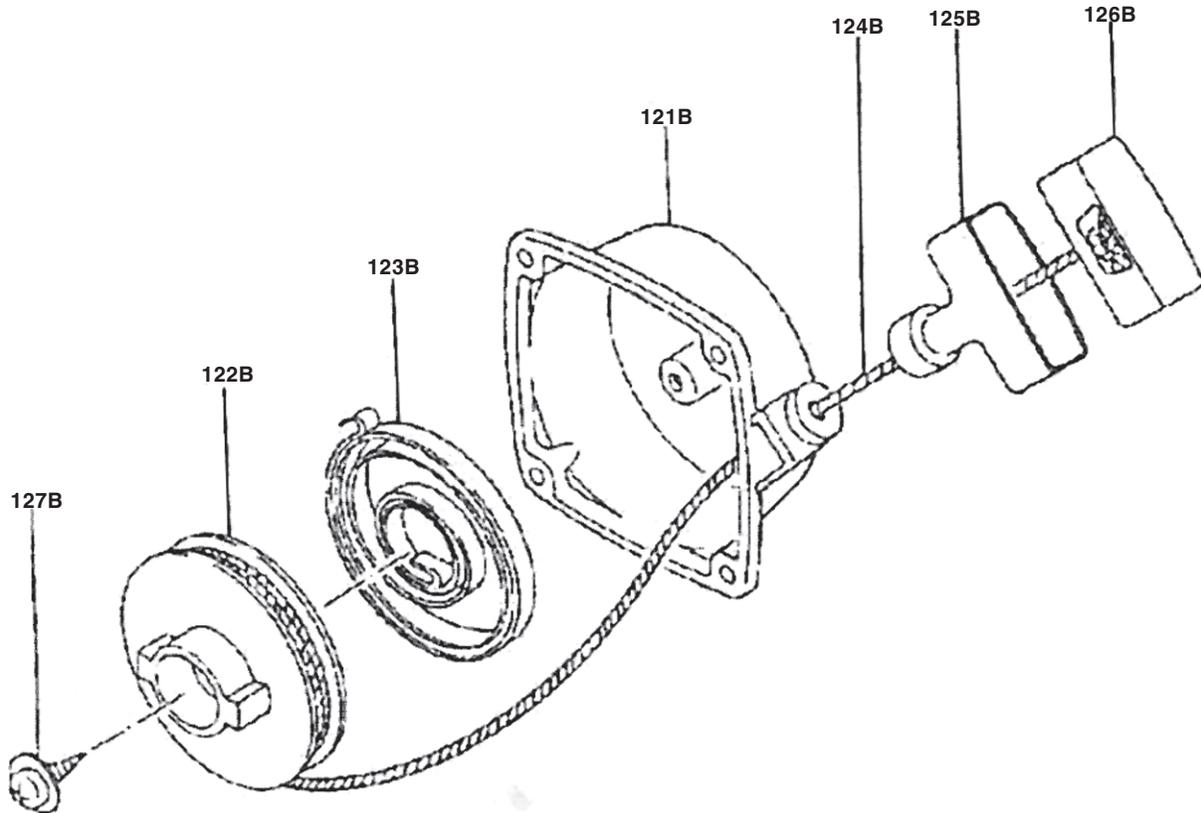


NOTE:

Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

PARTS LIST & ASSEMBLY DIAGRAM - RECOIL STARTER

Part #	Description	Qty.
121B	Recoil Starter Body	1
122B	Starter Rope Reel	1
123B	Recoil Spring	1
124B	Starter Rope	1
125B	Recoil Starter	1
126B	Starter Handle Cap	1
127B	Set Screw	1

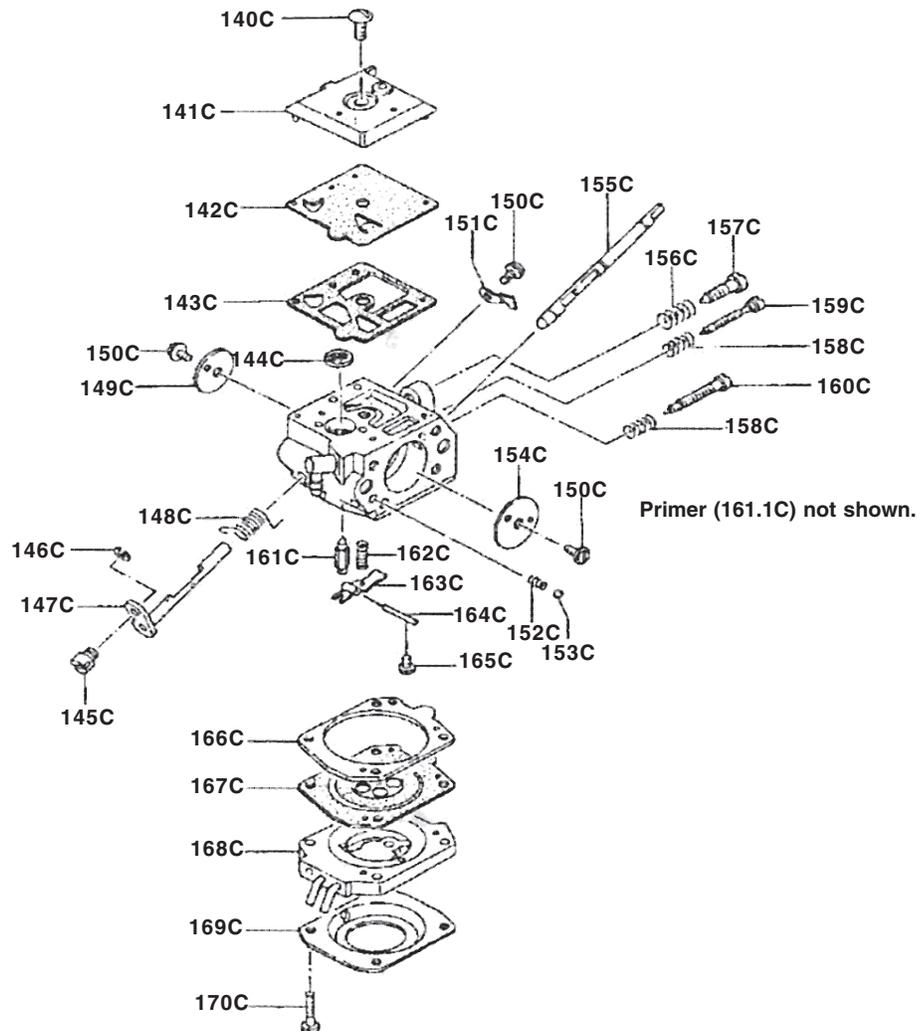


NOTE:

Some parts are listed and shown for illustration purposes only,
and are not available individually as replacement parts.

PARTS LIST & ASSEMBLY DIAGRAM - CARBURETOR

Part #	Description	Qty.	Part #	Description	Qty.
140C	Set Screw	1	156C	Idle Adjust Spring	1
141C	Pump Body	1	157C	Idle Adjust Screw	1
142C	Pump Gasket	1	158C	Adjust Spring	2
143C	Pump Diaphragm	1	159C	Low Adjust Screw	1
144C	Inlet Screen	1	160C	High Adjust Screw	1
145C	Swivel	1	161C	Needle Valve	1
146C	Stop Ring	1	161.1C	Primer	1
147C	Throttle Shaft	1	162C	Valve Spring	1
148C	Throttle Spring	1	163C	Control Lever	1
149C	Throttle Valve	1	164C	Hinge Pin	1
150C	Shutter Screw	3	165C	Hinge Pin Set Screw	1
151C	Stop Plate	1	166C	Diaphragm Gasket	1
152C	Choke Spring	1	167C	Metering Diaphragm	1
153C	Steel Ball	1	168C	Air Purge	1
154C	Choke Valve	1	169C	Diaphragm Cover	1
155C	Choke Shaft	1	170C	Set Screw	4



NOTE:

Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

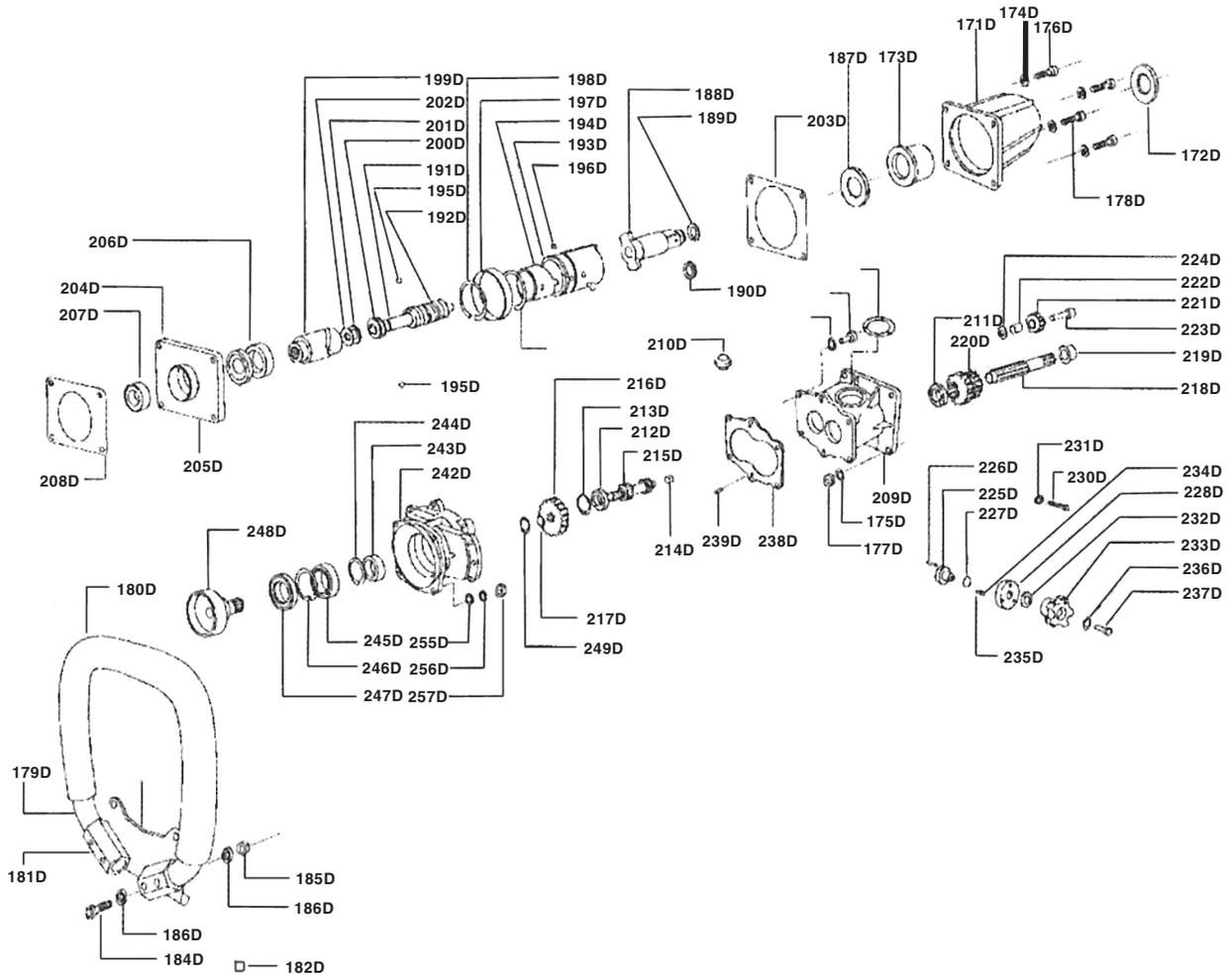
PARTS LIST - IMPACT UNIT & GEARBOX

Part #	Description	Qty.	Part #	Description	Qty.
171D	Hammer Housing	1	215D	Selector Shaft	1
172D	Oil Seal (AG2044E1)	1	216D	Gear	1
173D	Press-In Bushing	1	217D	Snap Ring (STW16)	1
174D	Washer (2H-M8)	4	218D	Bearing Shaft	1
175D	Spring Washer (M8)	3	219D	Bearing Shaft Bushing	1
176D	Hex Cap Bolt (M8 x 45)	3	220D	Gear Cluster	1
177D	U-Nut (M8)	3	221D	Planetary Gear	1
178D	Hex Cap Bolt (M8 x 50)	1	222D	Planetary Gear Bushing	1
179D	Anti-Vibration Handle	1	223D	Planetary Pivot	1
180D	Support Handle	1	224D	Planetary Spacer	1
181D	Retainer	2	225D	Selector Gear	1
182D	End Cap	2	226D	Gear Selector Spiral Pin (5 x 26)	1
183D	Foot Rest	1	227D	O-Ring (N14)	1
184D	Hex Cap Bolt (M6 x 45)	4	228D	Gear Flange	1
185D	U-Nut (M6)	4	229D	Packing	1
186D	Spring Washer (M6)	8	230D	Hex Cap Bolt (M5 x 10)	3
187D	Thrust Washer	1	231D	Spring Washer (2H-M5)	3
188D	1" Socket Square Drive	1	232D	Spring Washer (WW-16)	1
189D	Retainer Ring	1	233D	Gear Change Lever	1
190D	O-Ring (P18)	1	234D	Retainer Spring (3.8 x 7 x 0.6 x 6)	1
191D	Central Shaft	1	235D	Steel Ball (4)	1
192D	Return Spring	1	236D	Spring Washer (M6)	1
193D	Hammer	1	237D	Hex Cap Bolt (M6 x 20)	1
194D	Cam Plate	1	238D	Gear Case Gasket	1
195D	Roller Ball (13/32")	2	239D	Pin (4 x 13.8)	2
196D	Plug	4	240D	Spring Washer (2H-M6)	6
197D	Ring	1	241D	Hex Cap Bolt (M6 x 25)	6
198D	Snap Ring (WR73)	2	242D	Clutch Support Flange	1
199D	Clutch	1	243D	Ball Bearing (16005)	1
200D	Thrust Bearing (NSK51104)	1	244D	Snap Ring (IRTW-47)	1
201D	Spacer	1	245D	Ball Bearing (6907)	1
202D	Thrust	1	246D	Snap Ring (IRTW-55)	1
203D	Gasket	1	247D	Oil Seal (AC2081EO)	1
204D	Ring Flange	1	248D	Clutch Ring	1
205D	Oil Seal (AC1719EO)	1	249D	Snap Ring (STW-25)	1
206D	Ball Bearing (6007VV)	1	250D	Spring Washer	6
207D	Ball Bearing (6006)	1	251D	Hex Cap Bolt (M6 x 12)	6
208D	Ring Flange Gasket	1	252D	Hex Cap Bolt (M6 x 35)	4
209D	Gear Case	1	253D	Spring Washer (2H-M6)	4
210D	Gear Oil Port (PF3/8"-19)	1	254D	U-Nut (M6)	4
211D	Ball Bearing (16004)	1	255D	Spring Washer (2H0M6)	4
212D	Ball Bearing (16003)	1	256D	Spring Washer (M6)	4
213D	Snap Ring (IRTW-35)	1	257D	Hex Nut (M6)	4
214D	Bushing	1			

NOTE:

Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

ASSEMBLY DIAGRAM - IMPACT UNIT & GEARBOX



NOTE:

Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

Emission Control System Warranty

United States Emission Control Defects Warranty Statement

The United States Environmental Protection Agency (herein EPA), and Harbor Freight Tools® (herein HFT) are pleased to explain the emission control system warranty on your 1995 and later Small Off-Road Engine (herein engine). Within the United States, new off-road, spark-ignition engines certified for model year 1997 and later, must meet similar standards set forth by the EPA. HFT must warrant the emission control system on your engine for the periods of time described below, provided there has been no abuse, neglect or improper maintenance of your engine.

Your emission control system may include parts such as the carburetor or fuel-injection system, and the ignition system. Also included may be hoses, belts, connectors and other emission-related assemblies.

Where a warrantable condition exists, HFT will repair your engine at no cost to you including diagnosis, parts and labor.

Manufacturer's Warranty Coverage

The 1995 and later engines are warranted for two (2) years. If any emission-related part on your engine is defective, the part will be repaired or replaced by HFT.

Harbor Freight Tools Emission Control Defects Warranty Coverage

Engines are warranted for a period of two (2) years relative to emission control parts defects, subject to the provisions set forth below. If any emission related part on your engine is defective, the part will be repaired or replaced by HFT.

Owner's Warranty Responsibilities

- As the engine owner, you are responsible for the performance of the required maintenance listed in your Owner's Manual. HFT recommends that you retain all receipts covering maintenance on your engine, but HFT cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.
- As the engine owner, you should, however, be aware that HFT may deny you warranty coverage if your engine or a part has failed due to abuse, neglect, improper maintenance, or unapproved modifications.
- You are responsible for shipping your engine to a HFT warranty station as soon as a problem exists. Contact the HFT Customer Service department at the number below to make shipping arrangements. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should contact the Harbor Freight Tools Customer Service Department at 1-800-444-3353.

Harbor Freight Tools Emission Control Defects Warranty Provisions

1. Length of Coverage

HFT warrants to a first retail purchaser and each subsequent purchaser that the engine is free from defects in materials and workmanship that cause the failure of warranted parts for a period of two (2) years after the date of delivery to the first retail purchaser.

2. No Charge Repair or Replacement

Repair or replacement of any warranted part will be performed at no charge to the owner if the work is performed through a warranty station authorized by HFT. For emissions warranty service, contact the HFT Customer Service Department at 1-800-444-3353.

3. Consequential Damages Coverage

Coverage under this warranty shall also extend to the failure of any engine components caused by the failure of any warranted part while it is still covered under this warranty.

4. Coverage Exclusions

Warranty claims shall be filed in accordance with the provisions of the HFT warranty policy explained in the box at the top of the previous page. HFT shall not be liable for any loss of use of the engine, for any alternative usage, for any damage to goods, loss of time, or inconvenience. Warranty coverage shall also be excluded for any part which fails, malfunctions, or is damaged due to failure to follow the maintenance and operating instructions set forth in the Owner's Manual including, but not limited to:

- (a) use of parts which are not authorized by HFT
- (b) improper installation, adjustment or repair of the engine or of any warranted part unless performed by an authorized warranty center
- (c) failure to follow recommendations on fuel use contained in the Owner's Manual
- (d) improper or inadequate maintenance of any warranted parts
- (e) repairs performed outside of the authorized warranty service dealers
- (f) alterations by changing, adding to or removing parts from the engine.

Emission Control System Warranty - continued

Harbor Freight Tools Emission Control Defects Warranty Provisions

5. Service and Maintenance

Component parts which are not scheduled for replacement as required maintenance or are scheduled only for regular inspection to the effect of "repair or replace as necessary" are warranted for the warranty period. Any warranted part which is scheduled for replacement as required maintenance is warranted for the period of time up to the first scheduled replacement point for that part. Any replacement part, provided it is equivalent in durability and performance, may be used in performance of maintenance or repairs. The owner is responsible for commissioning a qualified technician/mechanic to perform all required maintenance, as outlined in the **Inspection, Cleaning, and Maintenance** section on pages 15 and 16 of this manual.

6. Warranted Parts

1) Fuel Metering System

- i) Carburetor and its internal parts.
- ii) Fuel pump (if so equipped).
- iii) Cold start enrichment system.

2) Air Induction System

- i) Intake pipe/manifold.
- ii) Air cleaner.

3) Ignition System

- i) Spark plug.
- ii) Magneto ignition system.

4) Catalyst System (if so equipped)

- i) Exhaust pipe stud.
- ii) Muffler.
- iii) Catalytic converter (if so equipped).

5) Miscellaneous items Used in Above Systems

- i) Vacuum, temperature and time sensitive valves and switches.
- ii) Hoses, belts, connectors, and assemblies.