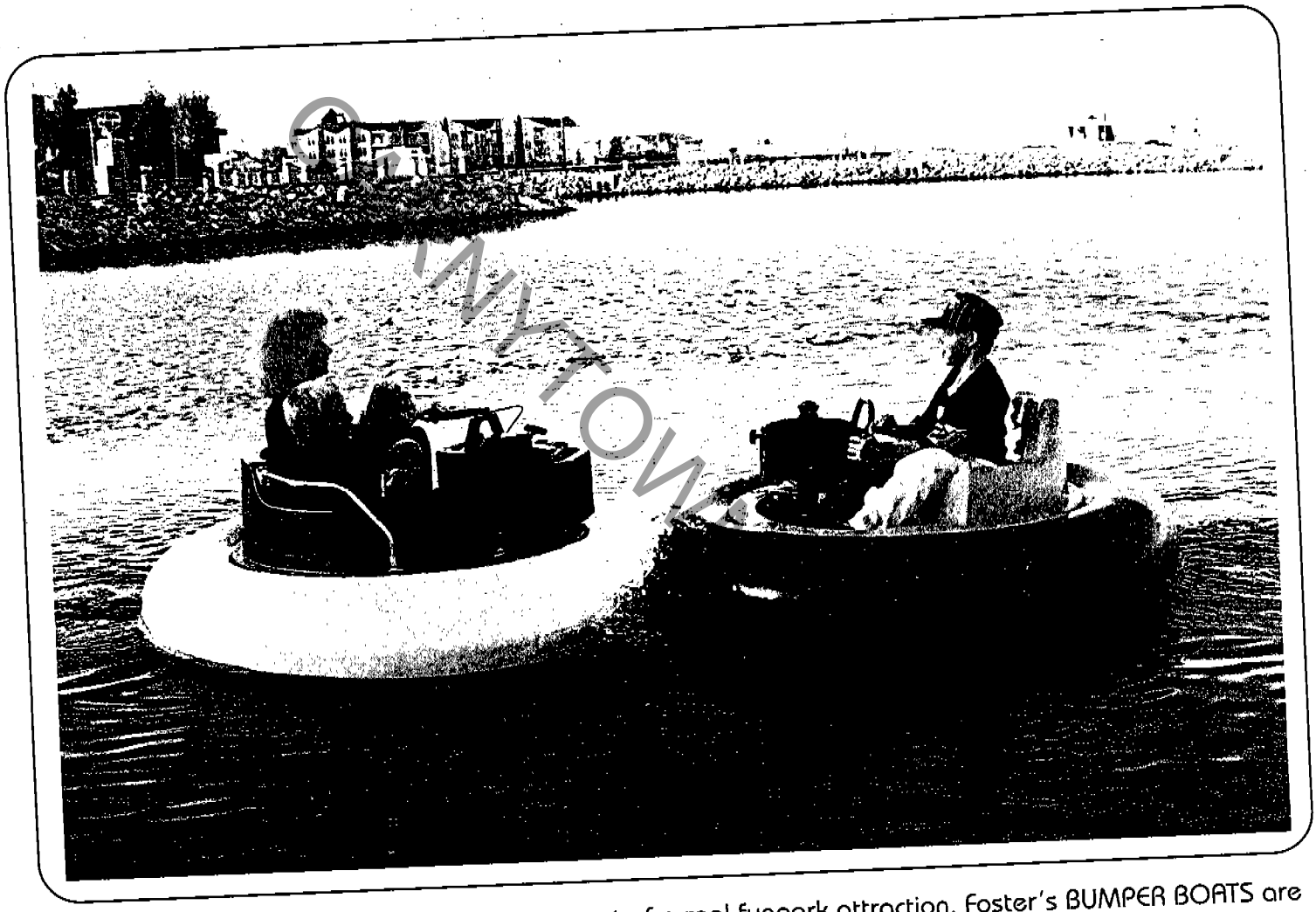
MFG: FOSTER MANUFACTURIN(
NAME: BUMPER BOATS
TYPE: NON-KIDDIE

BUMPER BO...

by Foster

Presenting the most extensive BUMPER BOAT product line in the industry



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A product line ranging from the traditional to the innovative, concepts that have established the next generation of BUMPER BOATS.

FOSTER Manufacturing Corporation

1652 Phillips Ave., Racine, Wisconsin 53403 (414) 633-7073 FAX (414) 633-4458

the BUMPER BOAT line-up . . .

"THE SINGLE PASSENGER"

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Four BUMPER BOAT Engines Available

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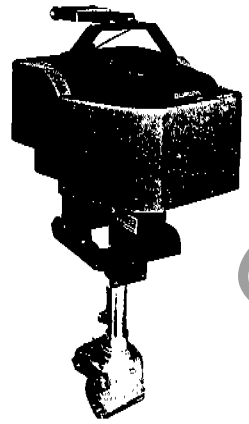
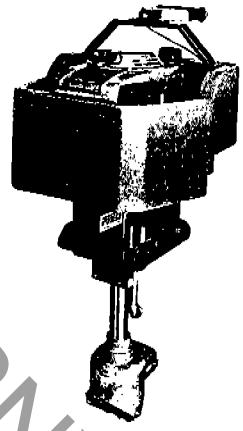
the PROP/JET by Foster



Model FPJ-4-B
4 Hp Europa Powered
Prop/Jet



Model FPJ-4-H
4 Hp Honda Powered
Prop/Jet

– FEATURES –

- 4 Stroke Engines
- Direct Drive
- Quiet Underwater Exhaust
- Simplified Maintenance
- High Fuel Economy
- No More Oil Contamination
- Rugged Construction
- Reliable & Proven Engines

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Traditional BUMPER BOAT Engines

SUZUKI DT-2

2 stroke/2 Hp

The Suzuki Model DT-2 is a 2-stroke engine that has been used to power BUMPER BOATS for many years. Properly maintained and serviced, the reliability and durability of this engine has been very satisfactory for most operators.

HONDA BF-2A

4 stroke/2 Hp

The Honda Model BF-2A is a 4-stroke engine that has been gaining some popularity on BUMPER BOATS. Operators that choose the BF-2A are normally looking to eliminate the mixing of oil and gas and minimizing water pollution.

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PREPARATION PROCEDURE FOR BUMPER BOATS WITH PROP/JET

Step 1) Inflating Bumper Boat Tubes

The floatation tube is made of very durable and tuff P.V.C. material. Because of the heavy wall thickness and material hardness, minimum air pressure is required. The tube should be inflated so that it feels firm to the touch. Never inflate tube so that it feels "Rock Hard". If a low pressure air gauge is available it should be used to determine when tube is inflated to (2) psi.

Normal operating air pressure should be (2) psi. If a gauge is not available, caution should be used that the tube is not over inflated. Remember, inflate tube until it is firm!!! NOT ROCK HARD

NOTE: After the inflating of the tube is complete spray water around the valve stem to check that the valve core is tight enough and there is no air leaking. Once the valve core has been checked, the air valve cap should be assembled to the valve and tightened.

Step 2) Assembly of Fiberglass Boat to Tube

The insertion of the boat body into the center of the P.V.C. tube will be a tight fit (especially the first few times). The fit is designed to be tight because the nature of the vinyl causes it to stretch somewhat after initial use.

Lay the floatation tube on a flat surface with the valve stem up. Squirt a soapy water mixture around the inside of the tube and around the bottom of the fiberglass boat. Position the boat in the center of the tube and apply equal pressure on both sides of the boat at the same time, forcing the boat down into the tube. The boat should be settled in the tube until the rim rests against the tube.

Step 3) Familarization Of Honda GXV-120

CAUTION: Refer to Owner's Manual of the GXV-120 for Proper Preparation procedure and safe operating concerns before starting the engine.

Step 4) Installing Prop/Jet in the Boat

Place the boat in the water so that the lower unit of the Prop/Jet can be lowered through the hole in the bottom of the boat.

Remove (4) 3/8"-16 Wing Nuts in the boat. (Leave the (4) 3/8" split lockwashers on the mounting studs).

While lowering the Lower Unit of the Prop/Jet through the hole in the floor of the boat, align the (4) holes in the bracket to the mounting studs in the floor. Once in position, secure the bracket to the studs using the (4) 3/8"-16 Wing nuts.

NOTE: The proper position of the mounting bracket will have the "Eye Bolt" used as a rope tie facing out over the front of the boat.

Step 5) This Step is for retrofitting the Prop/Jet to Older Foster Boats.

Once the Engine is secured to the boat, swivel the engine Left and Right. If complete movement is not possible it will be necessary to trim the opening in the bottom of the boat enough to allow for the swivel of the engine without rubbing on the exhaust protective tube.

NOTE: The older style Foster Boats had a smaller cut out through the Floor. Trim fiberglass adequately to allow lower unit to pass through the opening and permit for swiveling of engine.

Step 6) Servicing the Honda GXV-120

After the Owner's Manual has been thoroughly reviewed the engine should be serviced with proper oil for the crankcase and proper gasoline for the large auxilary fuel tank.

NOTE: Do Not Fill the stock Honda fuel tank. The stock fuel tank has been disconnected from the fuel line and capped. REPEAT!!! DO NOT FILL the stock fuel tank, only use the large auxilary Foster Tank!

CAUTION: DO NOT OVERFILL the large fuel tank. The "Full Fuel" level should allow at least 2" of space above the gasoline to the top of the tank.

Step 7) Open Gas tank fuel valve. (located on bottom side of fuel tank.)

Step 8) Starting the Engine

For the initial start up the throttle assembly (handle trigger) should be pulled all the way back and held for the first (3) or (4) pulls. If the engine fires release the throttle and pull the recoil again. Normally the (3) or (4) pulls with the throttle at "fast speed" will be adequate to choke the engine enough to start. Release the throttle and continue to pull starter recoil until engine starts. If the engine does not start after an additional (3) or (4) pulls wait a short period of time (10-15 seconds) and repeat the procedure. Sometimes it might be necessary to repeat the procedure in order to fill gas line and prime the carburetor for the initial startup.

NOTE: For cold starts it might be necessary to pull throttle assembly to "Fast Speed" for the first couple of pulls.

Step 9) Consult Owners Manual for Proper Breakin Procedure and Duration

Points of Concern

A) Be sure to lubricate swivel bracket assembly before using the Boat. Use a good "Water Resistant Grease."
B) Break-In Period. The initial break-in period is important to follow. Proper procedure can add longevity to the engine as well as helping to prevent premature engine failure.
C) Use a water resistant grease or a silicone lubricant to periodically lubricate the throttle cable and throttle slide assembly to assure smooth travel.
D) Be certain to always have all guards in place and never operate without having the engine shroud properly in place.
E) Routinely check all fasteners. Tighten if necessary. When removing fasteners be sure to reinstall with a thread adhesive "Loctite."

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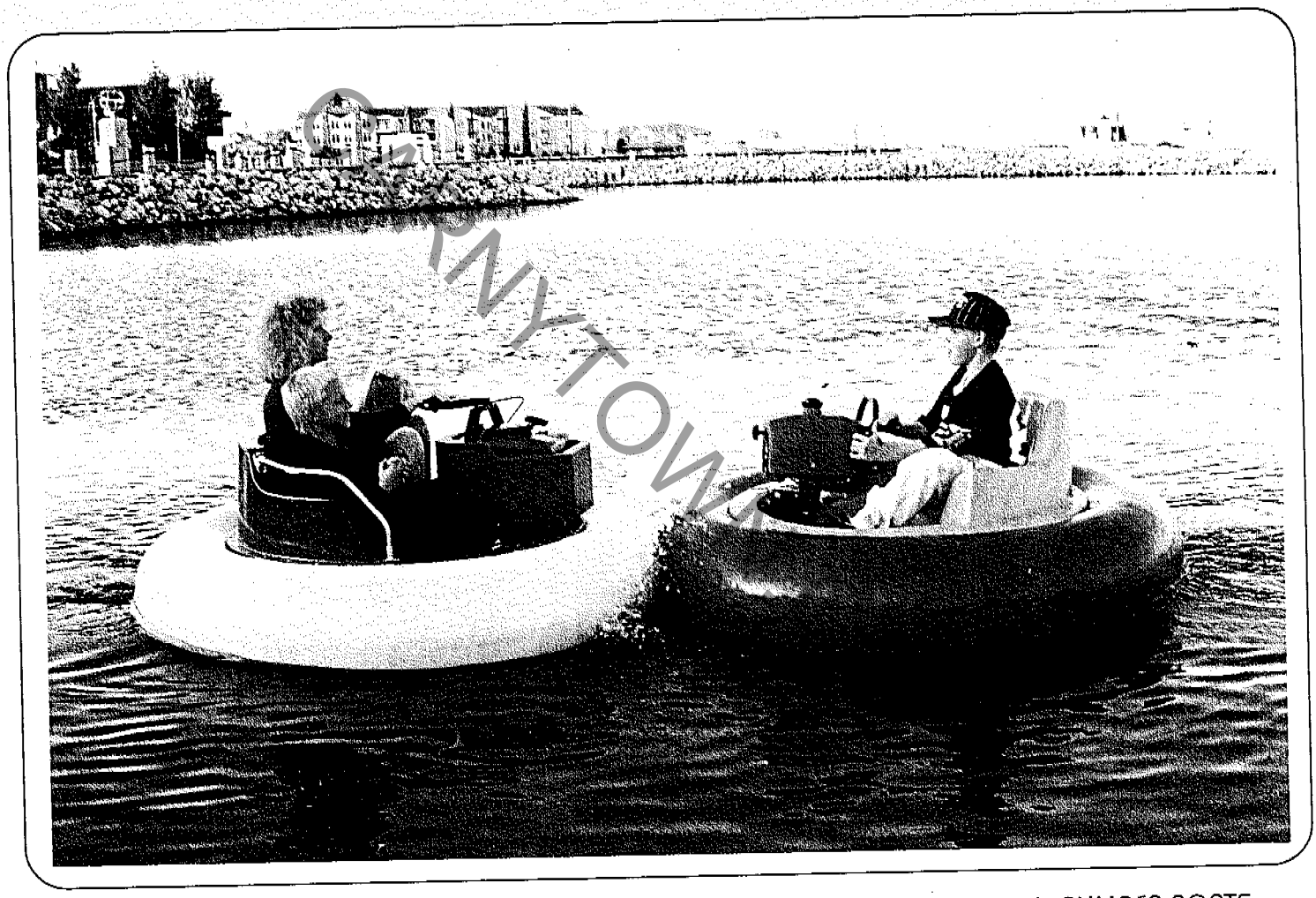

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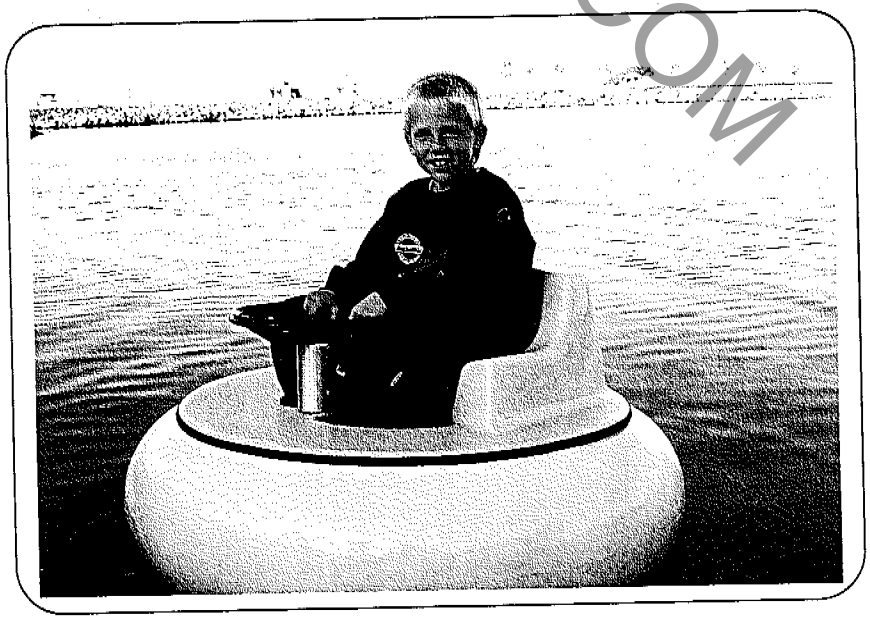

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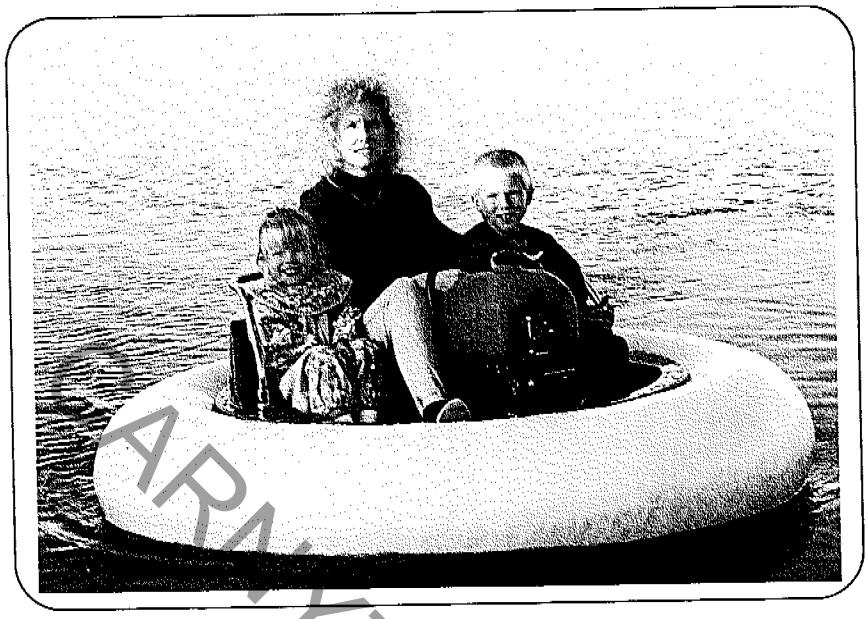

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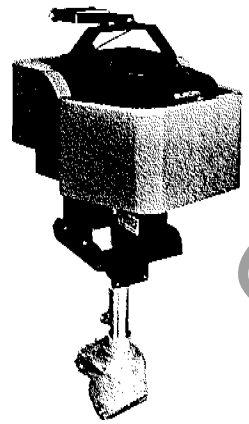

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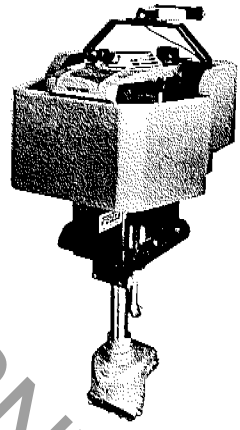

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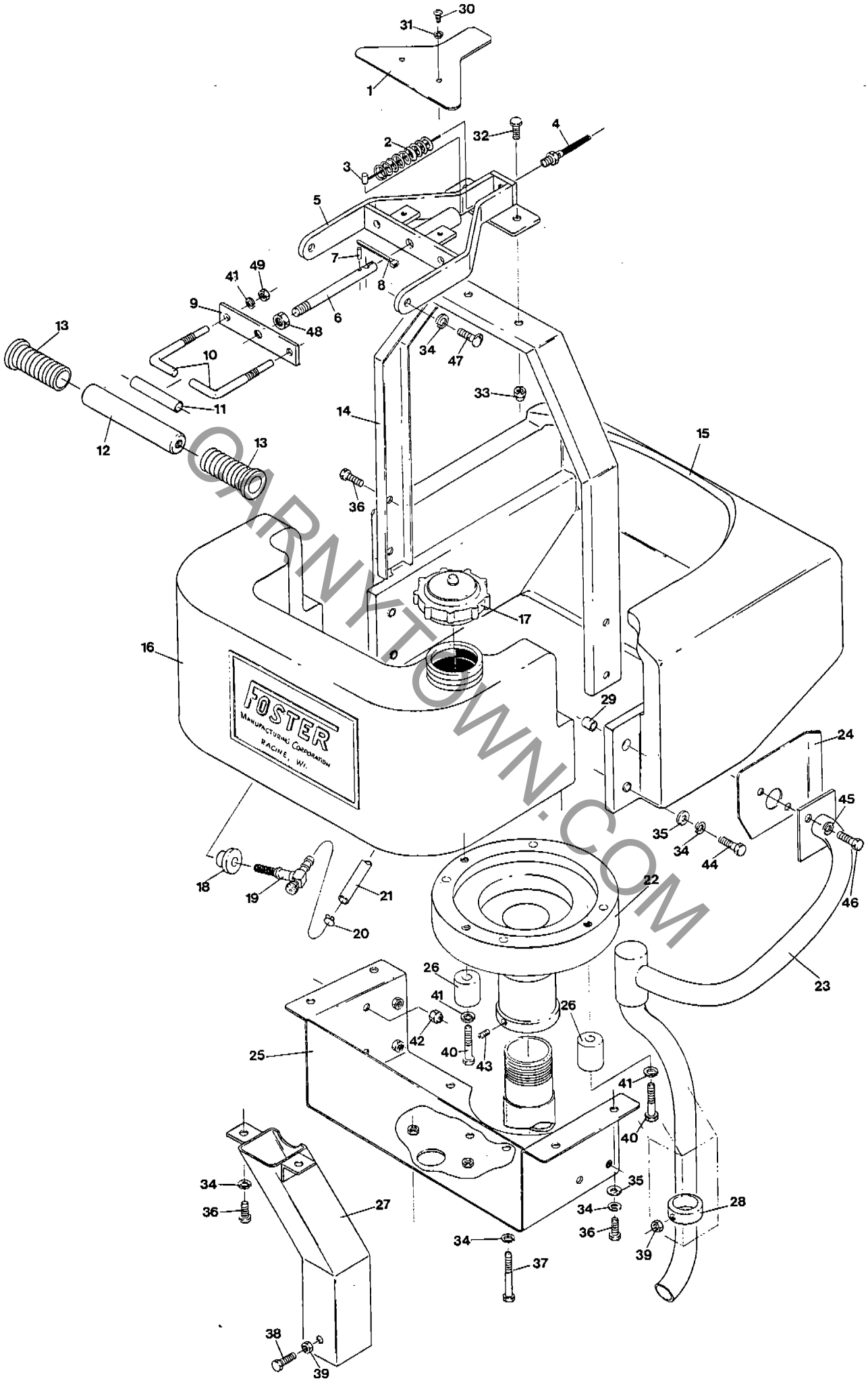
REPAIR PARTS - UPPER UNIT ASSEMBLY

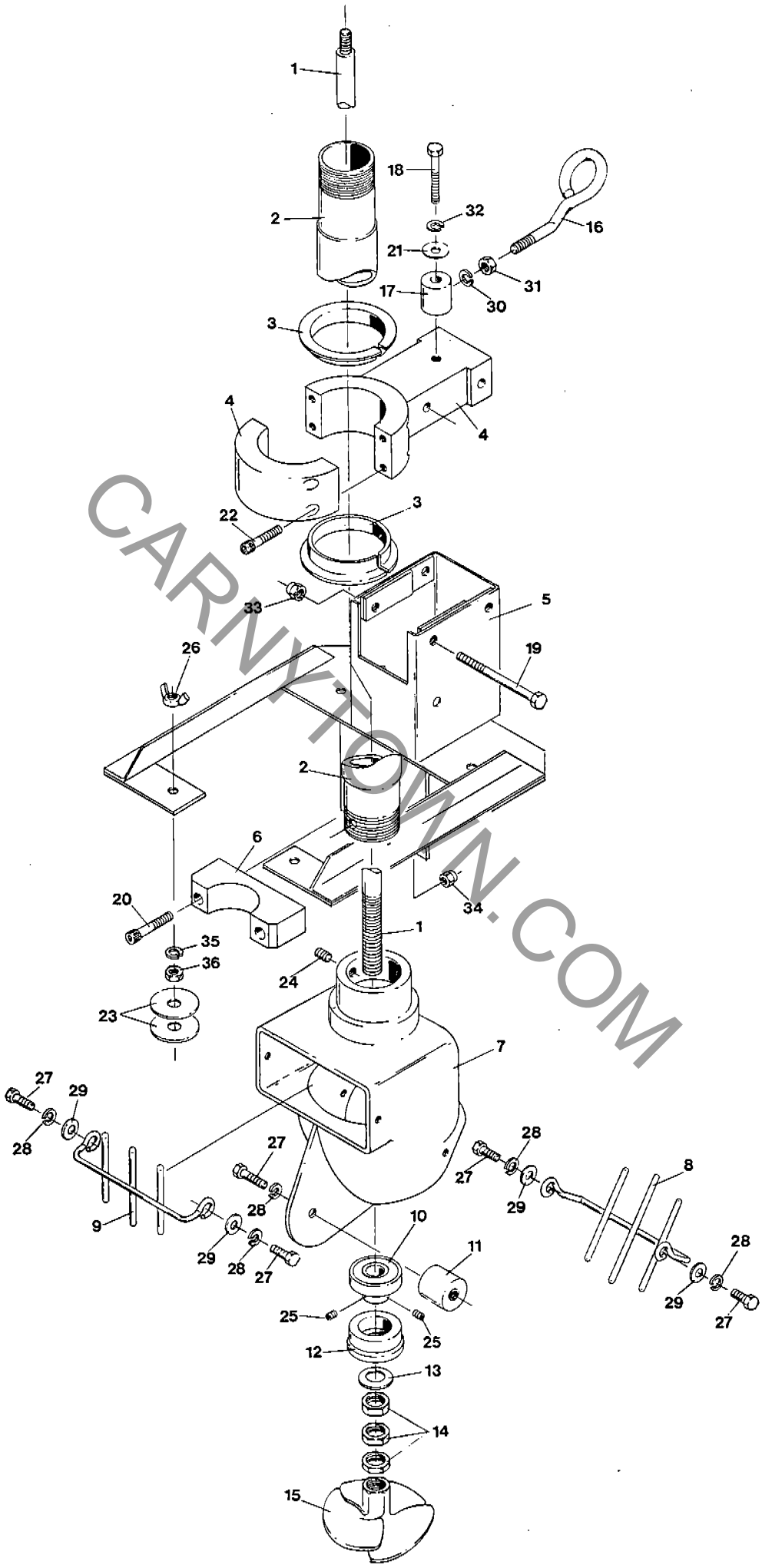
Item	Part No.	Description	List	Dealer Cost
1	250109	Cover Plate, Control Handle	$11.75	$8.75
2	250110	Control Spring	$2.60	$1.95
3	250111	Throttle Cable, Inner Wire	$2.75	$2.00
4	250112	Throttle Cable, Jacket Assy.,	$6.60	$4.95
5	250113	Control Handle	$25.00	$18.75
6	250114	Anchor Rod, Throttle Cable	$12.60	$9.40
7	250115	Stop Pin	$1.00	$0.75
8	250116	Plastic Tie	$0.25	$0.20
9	250117	Mounting Plate, Handle	$5.30	$3.95
10	250118	Handle Rod, Half	$5.40	$4.00
11	250119	Handle Rod, Sleeve	$2.60	$1.95
12	250120	Grip, Handle Rod	$6.60	$4.95
13	250121	Grip, Cover Half	$3.00	$2.25
14	250122	Handle, Mounting Channel	$22.00	$16.50
15	250123	Engine Shroud	$39.75	$29.75
16	250124	Fuel Tank - Complete Assy.,	$46.00	$34.50
17	200002	Fuel Cap, Vented	$5.00	$3.75
18	200007	Bushing, Fuel Valve	$1.95	$1.45
19	200006	Fuel Valve, Shut-Off	$8.35	$6.25
20	250125	Clip, Fuel Line	$1.00	$0.75
21	250126	Fuel Line	$2.75	$2.00
22	250127	Engine Mounting Base	$116.75	$87.50
23	250128	Exhaust Manifold, Pipe Assy.	$70.75	$52.95
24	18381-ZE6-000	Manifold Gasket	$2.95	$2.20
25	250129	Mounting Channel, Main	$46.00	$34.50
26	250130	Engine Base, Swivel Stop	$4.00	$3.00
27	250131	Guard, Exhaust Pipe	$25.00	$18.75
28	250132	Clamp, Exhaust	$3.95	$2.95
29	250133	Mounting Sleeve Bushing	$1.70	$1.25
30	250134	10-32 x 3/8" SRHMS S/S	$0.50	$0.35
31	250135	#10 Split Lockwasher S/S	$0.35	$0.25
32	250136	5/16"-18 x 3/4" HHCS S/S	$0.60	$0.45
33	250137	5/16"-18 Hex Nyloc S/S	$0.60	$0.45
34	250138	5/16" Split Lockwasher	$0.35	$0.25
35	250139	Flatwasher 5/16" S/S	$0.40	$0.30
36	250140	5/16"-18 x 3/4" HHCS	$0.50	$0.35
37	250141	5/16"-24 x 2" HHCS	$1.00	$0.75
38	250142	1/4"-20 x 3/4" HHCS S/S	$0.55	$0.40
39	250143	1/4"-20 Hex Nut S/S	$0.50	$0.35
40	250144	5/16"-18 x 2" HHCS S/S	$1.30	$0.95
41	250145	5/16" Split Lockwasher S/S	$0.40	$0.30
42	201005	5/16"-18 Hex Nyloc	$0.55	$0.40
43	250147	5/16"-18 x 1/4" Set Screw S/S	$0.55	$0.40
44	250148	5/16"-18 x 1-1/4" HHCS	$0.50	$0.35
45	250149	1/4" Split Lockwasher S/S	$0.40	$0.30
46	250150	M6 x 16MM HHCS S/S	$0.70	$0.50
47	250151	5/16"-18 x 3/4" STHMS	$0.60	$0.45
48	250152	3/8"-16 Hex Jam Nut S/S	$0.60	$0.45
49	250153	5/16"-18 Hex Nut S/S	$0.55	$0.40



PROP/JET

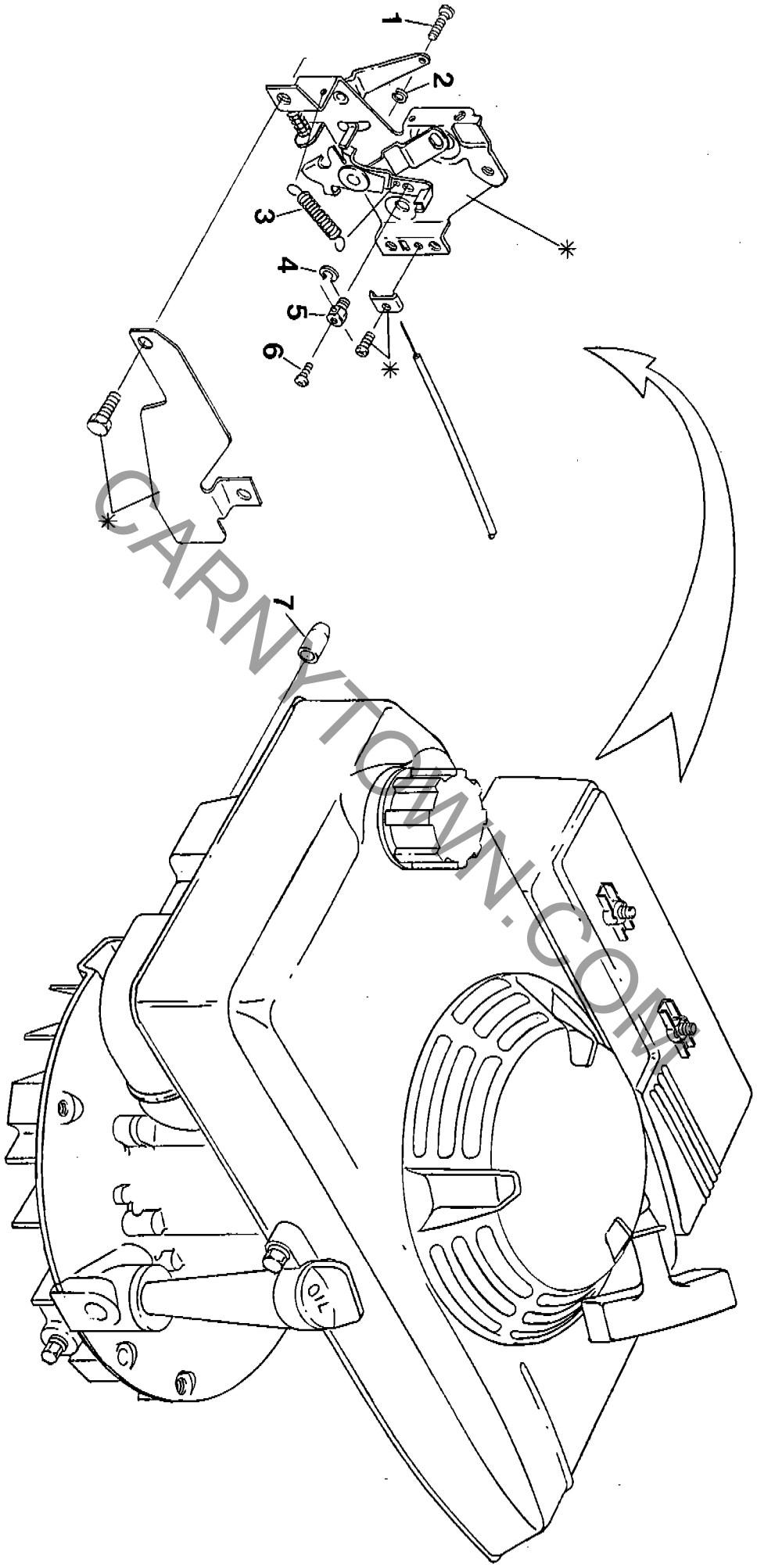
REPAIR PARTS - LOWER UNIT ASSEMBLY

Item No.	Part No.	Description	List	Dealer Cost
1	250164	Drive Shaft	$35.00	$26.25
2	250165	Drive Shaft Housing	$43.50	$32.50
3	43711-98401	Steering Bushing	$2.60	$1.95
4	250166	Heavy-Duty Swivel Bracket	$80.00	$60.00
5	250167	Main Mounting Mast	$66.50	$49.75
6	250168	Thrust Block, Backup	$12.75	$9.50
7	250169	Propeller Housing	$80.00	$60.00
8	250170	Intake Guard	$14.00	$10.50
9	250171	Exhaust Guard	$14.00	$10.50
10	250172	Bearing	$16.00	$12.00
11	250173	Zinc Anode	$12.50	$9.25
12	250174	Bearing Seal	$11.75	$8.75
13	250175	Flat Washer 5/8" S/S	$0.60	$0.45
14	250146	5/8"-11 Hex Jam Nut S/S	$1.00	$0.75
15	250163	Propeller	$33.50	$24.95
16	250162	Rope Tie	$10.35	$7.75
17	250161	Swivel Stop	$5.25	$3.95
18	250144	5/16"-18 x 2" HHCS S/S	$1.30	$0.95
19	201008	5/16"-18 x 3-1/2" HHCS	$0.70	$0.50
20	250160	1/4"-20 x 1-1/2" SHCS S/S	$1.00	$0.75
21	250139	Flat Washer 5/16" S/S	$0.55	$0.40
22	250159	1/4"-20 x 1" SHCS	$0.60	$0.45
23	201019	Fender Washer 3/8"	$0.55	$0.40
24	250147	5/16"-18 x 1/4" Set Screw	$0.55	$0.40
25	250158	1/4"-28 x 1/4" Set Screw	$0.40	$0.30
26	201021	3/8"-16 Heavy-Wing Nut	$0.60	$0.45
27	250142	1/4"-20 x 3/4" HHCS S/S	$0.55	$0.40
28	250149	1/4" Split Lockwasher S/S	$0.35	$0.25
29	250157	Flat Washer 1/4" S/S	$0.50	$0.35
30	250156	3/8" Split LockWasher S/S	$0.40	$0.30
31	250155	3/8"-16 Hex Nut S/S	$0.55	$0.40
32	250145	5/16" Split LockWasher S/	$0.40	$0.30
33	201005	5/16"-18 Hex Nyloc	$0.55	$0.40
34	250154	1/4"-20 Hex Nyloc S/S	$0.60	$0.45
35	201016	3/8" Split LockWasher	$0.40	$0.30
36	201020	3/8" Hex Jam Nut	$0.50	$0.35



REPAIR PARTS - THROTTLE ASSEMBLY

Item	Part No.	Description	List	Dealer Cost
1	250106	8-32 X 1/2" S.R.H.M.S.	$0.40	$0.30
2	250107	#10 Split Lockwasher	$0.30	$0.20
3	202018	Throttle Arm Spring	$2.20	$1.65
4	138768	E-Ring	$1.00	$0.75
5	2686558	Swivel	$3.00	$2.25
6	156463	Screw	$0.40	$0.30
7	250108	Rubber Cap	$0.50	$0.35
	*37800-93351	Kill Switch w/harness	$19.95	$14.95
	*18183-98400	E-Ring for Kill Switch	$1.15	$0.85



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MAINTENANCE PROCEDURE AND CONCERNS FOR PROP/JET

Maintaining The Honda GXV-120

The Model GXV-120 has been chosen for the Prop/Jet application because of its proven performance record and dependability.

To assure that you get the expected longevity and performance from your Honda, it is advisable that you familiarize yourself with the Owner's Manual.

Consult the manual for selection of gasoline, oil and specifications.

Maintaining The Performance Of The Prop/Jet

The Prop/Jet design, although very simple in component functions requires a routine inspection procedure. This procedure should be followed to assure good performance and minimal down-time.

Reference Upper Unit Assembly:

1) Inspection of throttle assembly to assure smooth functioning. Periodically apply water resistant grease to the control spring (item #2) and Handle Rods (item #10).

   Note: Be certain that the Plastic Tie (item #8) is always in place to keep the throttle cable from coming out of the Anchor Rod.

2) Routinely check all fasteners, tighten if necessary. Caution: When removing fasteners be certain to re-install with a thread adhesive "Loctite."

3) Check that the exhaust clamp (item #28) is always in place and is properly securing the exhaust pipe.

   Note: Never operate the Prop/Jet without having the Exhaust Guard Pipe (item #27) properly installed to avoid risk of severe burns.

4) Routine inspection of (item 15) Engine Shroud that it is securely fastened to the Main Mounting Channel (item #25).

   Note: Never operate the Prop/Jet without the Engine Shroud properly installed. Without the Shroud in place there is the possibility of severe burns and great danger.

Reference Lower Unit Assembly:

1) Routine inspection of the swivel bracket assembly (item #4). Inspect the Socket Head Cap Screws (item #22) they must always be tight. Routinely grease the swivel bracket to avoid premature wear on the Steering Bushings (item #3) replace Bushings when they show excessive wear.

2) Inspection of Zinc Anode should be done periodically (item #11). Replace the anode when signs of significant deterioration are present.

   Note: The Zinc Anode is installed to prevent severe corrosion of the aluminum parts.

3) Repacking the drive shaft bearing should be done every (300 hours) of use (item #10.)

Procedure to repack bearing:

A) Remove both Intake and Exhaust Guards (items 8 & 9).
B) Remove the Propeller.
C) Remove the Propeller Housing (item #7).
Note: Be sure to loosen the 5/16"-18 x ¼" Set Screw (item #24) before unscrewing the propeller housing from the Drive Shaft Housing Tube (item #2).
Caution!!! When assembling or disassembling threaded aluminum parts never force the threads. Always clean and inspect threads to be cautious not to "Jam" or "Cross-thread" the parts.
D) Remove the 5/8"-11 Hex Nuts (item #14) and 5/8" flat washer (s) Item #13.
E) Remove the Bearing Seal (item #12). Removal of seal can be done by using a flat screw driver between the seal and the end of the drive shaft housing tube.

Note: Be cautious not to damage the threads on the tube.
F) It is not necessary to remove the bearing for packing grease into the inner race. (Apply water resistant grease to the inner race.)
Wipe excess grease off the sides of the aluminum drive shaft housing tube.
Note: Check that the (2) set screws in the bearing race are tight against the stainless drive shaft.
G) Re-assemble the bearing seal into the end of the tube.
H) Re-assemble the propeller housing to the drive shaft housing tube.
Note: Before assembly make sure threads are clean and use a thread sealant. When properly timed on the tube lock in position with the set screw.
I) Re-assemble the 5/8" flatwasher(s) and (3) 5/8"-11 Hex Nuts.
Note: 5/8" Flatwasher(s) is held in place by locking (2) 5/8"-11 Hex Nuts together at the right level.
Note: The proper level is allowing 1/16"-3/32" gap between the flatwasher and the bearing seal. CAUTION!!! If the flatwasher is tightened to the seal or if too close IMMEDIATE DAMAGE will occur to the bearing seal.
J) Re-assemble the propeller. Thread the propeller completely onto the drive shaft. Lock in position by jamming the remaining 5/8"-11 jam nut against the propeller.
K) Replace both the Exhaust and the Intake guards.

Reference The Throttle Assembly:

1) Periodically apply water resistant grease to throttle spring (item 3) and throttle arm.

2) Periodically check Engine operating R.P.M.'s in both the idle position and Full Speed position.
A) Idle Speed should be approximately 1900-2000 R.P.M.
B) Full Speed should be approximately 3650-3750 R.P.M.
Note: After breakin period it will be necessary to properly set R.P.M.'s
Note: After initial use the throttle cable might stretch causing some loss of "Full Speed" R.P.M.'s. Re-tensioning the cable will be necessary.
Procedure to follow for re-tensioning the throttle cable:
A) Loosen the locking screw (item #6)
B) While making sure that the throttle arm does not move to the fast position, stretch cable with a pair of pliers and re-tighten the locking screw (item #6).
Note: Full Speed should be approximately 3650-3750 R.P.M.

TROUBLE SHOOTING

Engine Will Not Start:

1) Is the throttle cable attached to the throttle arm?
2) If the engine is "Cold", are you pulling the throttle trigger back to the fast position?
3) Are both fuel valves on? (1) Valve is located at the carburetor, (1) Valve located on bottom inside of large fuel tank.
4) Is there adequate fuel in the tank?
5) Are you getting spark at the spark plug? (consult the Honda GXV-120 operators manual)
6) Check that "Kill Switch" is not shorted out.

Speed of The Prop/Jet Is Diminished:

1) Is throttle cable properly attached to throttle arm? It might be necessary to re-tension the cable. (refer to the throttle assembly section) for procedure to re-tension.
2) Check engine R.P.M. setting. The engine should operate at 3650-3750 R.P.M.'s for Full Load.
3) Check for any restrictions at the Intake or Discharge ports of the propeller housing.
4) Check that the propeller is screwed up all the way on the drive shaft.

Engine Turns Over Very Hard When Starting:

1) Check that there is nothing caught inside the propeller housing causing a drag on the propeller.
2) Check that the flatwasher (item #13) is not tight against the bearing seal (item #12).

   Note: Proper gap between the (2) items is 1/16"-3/32".

3) Check that the propeller is completely threaded up on the drive shaft.

HONDA

PARTS CATALOG

GENERAL PURPOSE ENGINE GXV120

HC2618841

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MARCH, 1987

HONDA MOTOR CO., LTD.
TOKYO, JAPAN

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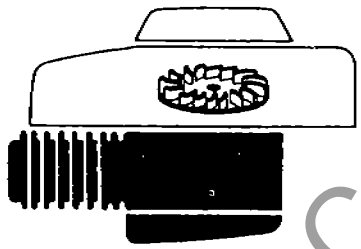
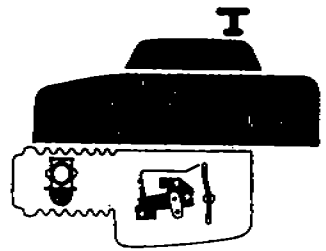
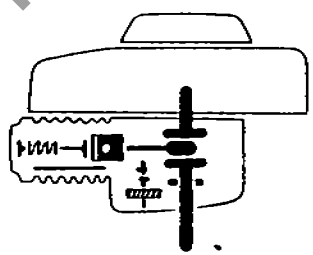
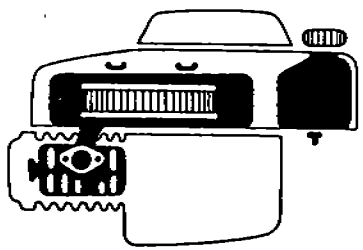
CONTENTS

CONTENTS - ENGINE GROUP









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INSTRUCTION FOR USE OF PARTS CATALOG

This parts catalog is to be used when ordering replacement parts; it contains all parts for model GXV120.

I. How to order parts

1. HONDA CODE

When placing a parts order with AMERICAN HONDA be sure to use the HONDA CODE (H/C) in conjunction with the part number. The HONDA CODE for each item shown will be listed directly to the left of the part number. Those part numbers without HONDA CODE are not available.

2. Revisions

When modifications or revisions are made for this model, a revised edition will be issued at an appropriate time. The issue date will be printed on the upper right hand corner of each microfiche, or on the cover sheet of the paper catalog on which the edition number and the issue date will be printed at the lower right corner.

When you received a revised edition, discard the old copy. For minor changes, AMERICAN HONDA will issue periodic parts news bulletins advising you of any changes or corrections. Retain these until the revised microfiche or paper catalog is received.

An asterisk (*) will be indicated in front of "Ref. No." for modified or added part when there is some change or addition on the present parts catalog.

3. Multiple parts

Many standard items, SPARK PLUGS, BOLTS, NUTS, WASHERS, PINS, which are in constant use are sold in multiples of ten (10) and consideration when placing your order is advised.

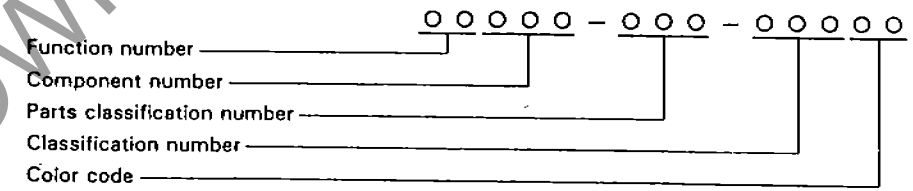
4. Parts return

Parts may not be returned to AMERICAN HONDA without prior written authorization. Written authorization may be obtained by completing an Order Adjustment Request form (PO744) and forwarding it to your parts distribution center. We will correct any discrepancies which are a result of an error on our part. This would cover damaged parts (not caused in mishandling by the delivery service), wrong parts, incorrect quantities, etc. Advise us of discrepancies within twenty-one (21) days from invoice date. AMERICAN HONDA is not responsible for parts that are refused upon delivery or returned without prior authorization.

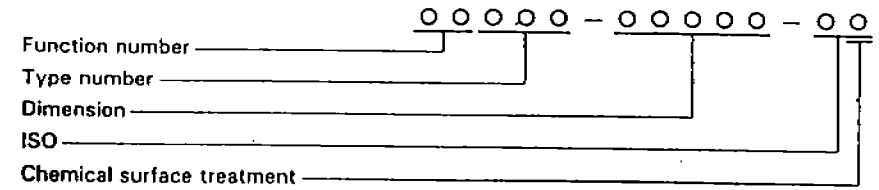
II. How to read this parts catalog

1. Make-up of the HONDA part number system

(Example) General parts



(Example) Bolts, nuts and other standard parts



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2. Color code

The color code at the end of the part number indicates the color.

The color description is given in ( ) under the part name in the "Description" column.

3. Dimensions

Dimensions of the parts in this catalog are indicated in millimeter (mm) units.

(Except: Steel balls, tires and tire tubes)

Parts	Example	Interpretation
Bolt (Screw)	6×12	6mm diameter, 12mm length
Pin	8×14	8mm diameter, 14mm length
O-Ring	9.5×1.6	9.5mm diameter, 1.6mm thickness
Oil seal	14×24×5	14mm inside diameter, 24mm outside diameter, 5mm thickness
Tube	5×130	5mm inside diameter, 130mm length

4. Superseded parts

Part number which are given under the part name in the "Description" column indicate that the original part number has been superseded by the given part number. HONDA may make such supersessions without notice.

5. Assemblies

Sections framed with broken lines in the exploded view drawings are available as complete assemblies. (Their individual parts can also be obtained.)

6. Required quantity

The number given in the "Reqd. No." column indicates the quantity of parts used in the section described in that block.

Parts with quantities in ( ) represent optional parts.

Part whose required number is "N", is part whose required number can be selected at need.

7. Abbreviations

The following abbreviations are used in this parts catalog.

ASSY. ..... Assembly
COMP. ..... Complete
R. ..... Right
L. ..... Left
STD. ..... Standard
MM ..... Millimeter
T(22T) ..... Tooth (22Teeth)
A ..... Ampere
V ..... Volt
W ..... Watt
L(100L) ..... Link (100Links)
A.C. ..... Alternating current
D.C. ..... Direct current
IN ..... Inlet
EX. ..... Exhaust
FR. ..... Front
RR. ..... Rear
HEX. ..... Hexagonal
C.D.I. ..... Capacitor discharge ignition
P.T.O. ..... Power take off

8. Decision for "R." or "L."

"R." or "L." in the description of a part stands for the Right hand side or the Left hand side which is decided by the forward direction of travel of the vehicle.

9. Part modifications and applicable serial numbers

The serial number of the product (engine, carburetor) should be checked prior to ordering parts for a specific product.

In cases where a part has been modified, the serial number of the first product bearing the modification is listed in the "Serial No." column.

The modification parts are controled by each pertinent serial number below:

Engine serial number : Engine group parts (Block No. E-1 thru EOP-1)

Carburetor identification number : Carburetor component parts (Block No. E-9)

10. Illustration

Illustration of parts given in parts catalog diagrams are provided for convenience in identifying parts and may differ from the actual configuration of parts.