

MFG: FOSTER MANUFACTURING  
NAME: KIDDIE BUMPER BOATS  
TYPE: ~~KIDDIE~~

# **BUMPER CAR INSTRUCTIONS**

FOSTER MFG. CORP.,  
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## OPERATING INSTRUCTIONS

Step 1) Start the engine. If the ambient temperature is cold or the engine is cold, it will be necessary to use the choke. (Refer to the starting the engine section of this manual and or the Honda Owners Manual.

NOTE: If the engine is to be started using the remote ignition switch on the back of the seat, the ignition switch on the engine itself must be switched to the "ON POSITION." If the engine's switch is not turned to the "ON POSITION" the engine will turn over, but will not start.

NOTE: The engine's speed must always be maintained at the 2700 R.P.M. level. The ride and performance of the ride relies on the proper engine speed.

Step 2) Rider(s) may be loaded onto the Bumper Car. ALL RIDERS ON BUMPER CARS MUST SECURELY FASTEN THEIR SEAT BELTS BEFORE THE RIDE CAN BE ACTIVATED.

Step 3) To allow the ride to be able to start, the operator activates the ride by depressing the Run Transmitter.

NOTE: Activation of the ride means that the ride now can be controlled by the rider when the control handles are moved. Unless the control handles are moved the vehicle will not move, even though the ride has been activated.

### RIDE MOVEMENT CONTROLS:

Movement of the Bumper Car, once the vehicle has been activated, is accomplished as follows.

A) TO MOVE FORWARD IN A STRAIGHT DIRECTION...

Push both control handles forward at the same time and hold them in this position.

B) TO MOVE IN REVERSE IN A STRAIGHT DIRECTION...

Pull both control handles back at the same time and hold them in this position.

C) TO TURN THE BUMPER CAR...

Push the control lever forward on the opposite side that you want to turn. (i.e. to turn to the left, the right control lever should be pushed forward and released after the desired turn is accomplished.

D) TO TURN VERY SHARP...

Pull back on the control lever on the side that is turned and push forward on the opposite side.

NOTE: If the controls are held for any length of time in this fashion, the car will actually start spinning. Turning or Spinning in opposite direction can be done by reversing the direction of both handles.

E) Releasing both control handles causes the vehicle to come to a stop.

### OPERATIONAL DUTY CYCLE:

The Honda engine is equipped with a charging coil that will supply the demand for the

12v.dc. power consumption from the (2) solenoid valve coils. THE DUTY CYCLE FOR THE CHARGING COIL TO MAINTAIN AND REPLENISH THE DRAW ON THE BATTERY IS 70%. (i.e. If the timer is set allowing a 3-1/2 minute ride, it is necessary for the vehicle's engine to run at least 1-1/2 minutes before the ride is activated for another ride cycle.)

NOTE: The engine always must be allowed to Run an adequate amount of time to replenish the battery before shutting it down. IT IS NOT ADVISABLE TO START AND STOP THE ENGINE AFTER EACH RIDE. THE ELECTRICAL DEMAND FROM THE STARTER WILL DRAIN THE BATTERY.

NOTE: If there is not an adequate charge in the battery the ride will not be able to be activated.

NOTE: It is IMPORTANT to understand that the battery will not be able to keep up to the demand if the Duty Cycle is Exceeded.

NOTE: It is advisable to let the engine run a few minutes after the last ride before shutting it down. It is not advisable to allow the engine to Run for long periods of time if the ride is not being used. It will cause EXCESSIVE HEAT BUILD UP.

## **STARTING THE ENGINE:**

- Step 1) Turn the ignition switch (Remote switch on back of the seat) to the "ON POSITION" DO NOT TURN TO START POSITION.
- Step 2) Raise the Bumper Car Body and use the 3/8" diameter support rod to maintain it in the up position.
- Step 3) Turn the fuel valve to the "ON POSITION"
- Step 4) Move the choke lever to the "CLOSE POSITION"  
NOTE: The choke may not be needed if the engine is warm or the air temperature is high.
- Step 5) Move the throttle lever slightly to the left.  
NOTE: The Factory has set the throttle stop screw in a position to allow a maximum engine speed of 2700 R.P.M. For this reason the lever will not have the normal full travel.
- Step 6) Start the engine. Turn the engine switch to the "Start" position and hold it there until the engine starts. When the engine starts, allow the engine switch to return to the "ON POSITION".  
NOTICE: Do Not use the electric starter for more than (5) seconds or starter motor damage may occur. If the engine fails to start, release the switch and wait (10) seconds before operating the starter again.
- NOTE: As the engine warms up, gradually move the choke lever to the "OPEN POSITION."
- Step 7) After the engine has run for a couple of minutes to "WARM UP" the throttle lever should be slid all the way to the left. The stop screw will stop the movement and the Fast RPM should be approximately 2700 R.P.M.
- Step 8) Lower the Bumper Car Body and secure it to the frame with the rubber latch.

## **FUELING THE GAS TANK:**

Step 1) Remove the filler cap and check the fuel level.

Step 2) Fill or refill the tank if the fuel level is low. DO NOT FILL ABOVE THE SHOULDER OF THE FUEL STRAINER.

Step 3) Replace the filler cap and immediately wipe up any spillage.

NOTE: Use unleaded gasoline with a pump octane rating of 86 or higher. This engine is certified to operate on unleaded gasoline. Unleaded gasoline produces fewer engine and spark plug deposits and extends the exhaust system life.

## **WARNING:**

\*Gasoline is extremely flammable and is explosive under certain conditions.

\*Refuel in a well ventilated area with the engine stopped. DO NOT smoke or allow flames or sparks in the area where the engine is refueled or gasoline is stored.

\*Always allow the engine to cool adequately before refueling. NEVER REFUEL A HOT ENGINE!!!

\*Do not overfill the fuel tank (there should be no fuel in the filler neck.) After refueling, make sure the tank cap is closed properly and securely. Be careful not to spill fuel when refueling. Spilled fuel vapor may ignite. If any fuel is spilled, make sure the area is dry before starting the engine.

\*Avoid repeated or prolonged contact with skin or breathing of vapor.

\*KEEP FUEL OUT OF THE REACH OF CHILDREN.

**NOTICE:** Fuel can damage paint and plastic. Be careful not to spill fuel when filling your fuel tank.

NOTE: Fuel tank capacity is .95 US gallons.

## **SERVICING HYDRAULIC SYSTEM:**

Step 1) **THIS STEP HAS ALREADY BEEN COMPLETED AT THE FACTORY.**

The following procedure is for future reference, this procedure is for servicing the system's hydraulic system.

Remove the reservoir's breather cap from the hydraulic oil tank. (Be cautious not to get any dirt or contaminants in the reservoir while the cap is removed.)

Step 2) Fill reservoir to the point it can be seen just below the strainer screen in the breather cap assembly. (Do Not Overfill, Overflow will occur when the system becomes hot and vehicle is in use.

NOTE: Reservoir capacity is approximately (10) gallons. Type of hydraulic oil is very important for operating characteristics. System must never operate with oil that affords less than (50) SSU at 200 dgrs. F.

Suggestion: Oil should have rust inhibiting additives and be of an Anti-Foam nature. Oil must be a Premium Grade. Selection might include U.S. Oil #300; ISO-68, Mobil #423, Dextron II (A.T.F. Fluid)

Step 3) After the reservoir has been filled, replace the breather cap and clean any spillage.

## **SERVICING THE ENGINE:**

Step 1) **THIS STEP HAS ALREADY BEEN COMPLETED AT THE FACTORY.** The following procedure is for future reference, procedure is for servicing the engine's crankcase.

Remove the Oil Filler Cap. Fill the engine's crankcase with oil. Use a high quality detergent oil classified for service that meets or exceeds classification SF or SG.

NOTE: When checking oil level to determine when it is full follow the listed points.

A) Be sure the engine is in a level position.

B) Remove the oil filler cap and wipe it clean.

C) Insert the filler cap/dipstick into the oil filler neck, but do not screw it in.

D) If the level is low, fill to the top of the oil filler neck with the recommended oil.

Step 2) Reinstall the oil filler cap/dipstick. Wipe up any spillage.

NOTE: S.A.E. 10W30 Viscosity is recommended for general all temperature use. (Refer to engine manufacturer's operating manual for specifics.)

**CAUTION: IT IS EXTREMELY IMPORTANT THAT EVERYONE INVOLVED WITH THE BUMPER CARS IS AWARE THAT THE OIL ALERT ON THE HONDA ENGINE HAS BEEN DISCONNECTED... IT IS NOT FUNCTIONING!!!**

It was necessary to disarm the oil alert system because of the nature and characteristics of the ride. If the oil alert was allowed to function, the ride would shut down as soon as the car was allowed to spin.

With the oil alert system not operating it just becomes much more critical that the oil level is checked more frequently and routinely.

**CAUTION:** It is extremely important that the engine is not started until the hydraulic

reservoir and engine's crankcase have been filled with proper oils.  
Running the hydraulic system without oil results in immediate damage!

## ELECTRICAL RIDE CONTROL SYSTEM:

Each Bumper Car is equipped with (2) wireless receivers and (1) Adjustable Relay/Delay timer. ALL ELECTRICAL COMPONENTS ARE 12 VOLT DC.

Each setup of Bumper Cars (regardless of the quantity) are supplied with (2) transmitters. The Run transmitter when activated sends a signal to the receiver that will cause the "Run" timer to lock into the circuit. (Timer is adjustable from 10-300 seconds). Once the Ride's Relay/Delay time is activated the Ride will function until the selected time value on the timer expires.

NOTE: It is necessary that the operator adjusts all the timers so that they are all calibrated to drop out of the circuit at the same time. FOR SAFE RIDE OPERATION, IT IS IMPERATIVE THAT ALL TIMERS DROP OUT AT THE SAME TIME SO THE RIDE FUNCTION ON ALL CARS STOPS AT THE SAME TIME!!!

NOTE: Once the ride timer is started the rider basically has control of the car until the time on the timer expires. It is because of potentially a need in an Emergency for the Operator to be able to shut down all the cars that an Emergency receiver is on all the cars. Each setup of cars also receives (1) Emergency Stop Transmitter. When the Emergency stop transmitter is activated it will cause all the ride timers to drop out of the circuit stopping all ride movements. The Emergency Stop Circuit Overrides the Ride cycle.

Once the Emergency Stop has been used the ride can only be started by sending another start up signal by the Run Transmitter, causing the timer to start again.

## FUNCTIONING CHARACTERISTICS OF THE RIDE'S RELAY CONTROL

The ride is controlled by an electrical/hydraulic circuit that needs to be energized by completing the Run Circuit.

The functioning of the ride, is controlled by the relay interlock that cause the system's (2) solenoid valves to be energized directing the hydraulic flow to the manual valves controlled by the riders to make the vehicle move.

The hydraulic circuit in the system does not allow oil flow to the manual directional valves unless the solenoid valves are energized.

The function of the Emergency Stop circuit is to interrupt the power to the ride's Run relay causing it to drop out of the circuit. When the Run relay drops out there is no longer power going to the solenoid valves and that stops oil flow to the manual control valves.



## PREPARATION PROCEDURE FOR FOSTER BUMPER CARS

All Bumper Cars have been completely serviced at the Factory to assure their performance in the field operation. This includes servicing the hydraulic system which has been filled with "Premium Grade" hydraulic oil. The engine's crankcase has been serviced and each vehicle has been "Run" tested. The vehicle has a 12 volt battery onboard that has been installed for the electrical system. The battery will require some charging time prior to using the vehicle in order to start out with a "Full Charge."

NOTE: The hydraulic system has been filled with approximately (10) gallons of hydraulic oil. Servicing at the factory was done with a #300 hydraulic oil. Brand Name is U.S. Oil Corp., type used is ISO-68.

Basic preparation necessary after the uncrating of the Bumper Car is to inflate and install the large Bumper Tube. It is necessary to remove the fiberglass body from the frame in order to install the tube.

### Body Removal Procedure:

Step 1) Reach through the access hole in the front of the body and unlatch the rubber tie down bracket assembly that holds the body to the main frame.

Step 2) Pivot the fiberglass body upward by lifting up the front of the body. Use the 3/8" diameter body support rod to hold the body in the "Up" position. The rod should be pulled out of its storage bracket located at the top left corner of the hydraulic reservoir. Pivot the rod upward and put the end into the tube receiver located on the right side of the body's floor.

Step 3) Disconnect the electrical pigtail assembly that is located in the rear of the vehicle on the left side.

Step 4) Lower the fiberglass body back down to the original position on the frame.

NOTE: When removing the 3/8" diameter support rod, make certain to relocate it back into its storage bracket.

Step 5) Remove the (4) 3/8"-16 x 1" Hex Head Cap Screws in the back of the vehicle that hold the body to the pivoting hinge.

NOTE: The assemblies include lockwashers and fender washers.

Step 6) Remove the fiberglass body from the frame by lifting straight up on the body high enough to clear the control handles and engine.

NOTE: This procedure requires (2) people. One on each side of the body.

CAUTION: The body is heavy, be careful when lifting.

Step 7) Remove the hinge mounting bracket from the back of the frame. The bracket is fastened to the ring with (3) 3/8"-16 x 1-3/4" Hex Head Cap Screws. Remove the Hex Cap Screws and lockwashers. Remove the bracket/hinge assembly.

Step 8) The large Bumper Tube, Model T-405 should be inflated to approximately 2 psi.

NOTE: 2 psi will make the tube feel firm, but not rock hard.

CAUTION: Over-inflating the tube will cause the tube to stretch out of shape. A tube

should be inflated once and left alone thereafter. The hardness of the tube will change according to air temperature. This is common and is acceptable.

**Step 9)** Install the bumper tube around the frame. The tube should be slid under the front frame brackets first and then push down in the back causing the frame's rolled ring to be completely on the inside of the tube. Push the tube completely down until it comes to rest on the (4) angle brackets at the bottom of the ring.

**NOTE:** It is advisable that the valve stem of the tube faces upward and is located in the rear of the car.

**NOTE:** The tube will be a tight fit for the first time installation. Be careful not to over inflate the tube which will cause a very difficult job to install it over the ring. Once the tube is over the frame it can be topped off to (2) psi if the tube was not completely inflated in Step 8.

**Step 10)** Re-install the hinge mounting bracket to the rear main frame. Use the (3) 3/8"-16 x 1-3/4" Hex Head Cap Screws and Lockwashers.

**NOTE:** Secure the fasteners snug and be careful not to over-tighten which will cause distortion in the ring.

**Step 11)** Position the hinge flap at a right angle so that when the body is placed back on the frame the flap will be on the inside of the fiberglass. Reposition the body back onto the frame. Secure and fasten the body to the hinge flap using the (4) 3/8"-16 x 1" Hex Head Cap Screws, lockwashers and fender washers.

**NOTE:** Hardware should be snug, but not overly tight. Over-tightening could crack the fiberglass.

**Step 12)** Pivot the body up to allow the 3/8" diameter support rod to be put back into position to hold the body up.

**Step 13)** Reconnect the electrical pigtail, located in the rear of the car. (Left Side)

**Step 14)** Lower the fiberglass body and reconnect the rubber latch assembly that holds the body to the frame.

## **RULES FOR SAFE OPERATION**

- \*Read this manual completely before operating the Bumper Cars.**
- \*Never allow small children or adults lacking proper instructions to operate the Bumper Cars!**
- \*Absolutely no Observers may be in the operating Area while Bumper Cars are in use!**
- \*Height Requirements:**
  - Single Rider...54" Minimum**
  - Double Rider:**
    - Operator...65" Minimum**
    - Passenger...48" Maximum**
- \*Seat Belts Must be used at All Times!**
- \*Maximum Combined Weight Limit 300 lbs.**
- \*No Smoking is allowed while in or around the Bumper Cars!**
- \*No Food or Drink is allowed while in the Bumper Cars!**
- \*All Riders and Passengers must remain properly seated while on the Bumper Cars!**
- \*Caution... Persons who are pregnant or have experienced back, neck or heart problems, should not operate or ride the Bumper Cars!**
- \*Notice... All operators and passengers ride the Bumper Cars at their own Risk!**
- \*Handle Fuel with care. Never fill gas engine when running or hot. Refuel outdoors in a clean area. Never refuel while a rider is seated in the vehicle!**
- \*Wipe clean any spilled oil or fuel immediately. Move oil and fuel away from fueling area before starting the Bumper Car's Engine!**
- \*Never allow riders to start the engine or activate the ride. Employees should Start and or Activate the Ride only after they give proper operating instructions to the riders.**
- \*Do Not Run the engine in an enclosed area. Exhaust gasses contain carbon monoxide. This odorless gas can be deadly when inhaled!**
- \*Never Activate the Ride until the Rider and or Passenger have been properly seated and Belted!**
- \*Operating an engine at excessive speeds increases the hazard of personal injury. DO NOT CHANGE THE FACTORY'S SETTING OF 2700 R.P.M.!**
- \*Always remove the spark plug wire before working on the engine or hydraulic system. This will prevent accidental starting of the engine!**

**\*Make a periodic check that all nuts, bolts, screw and fittings are tight!**

**\*Care should be taken when working around the battery or electrical system to avoid a shock or other electrical hazards!**

**\*Always wrap the positive battery cable with electrical tape when removing the battery!**

**\*Unusual or Excessive noise should be checked immediately. Shut engine off and review the Bumper Car's components!**

**\*Never allow the Bumper Car to operate on rough surfaces. Smooth and clean surfaces are necessary for proper operation!**

**WARNING!!!** Caution should always be taken when working on a hydraulic system. Escaping fluid under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting hoses, be sure to relieve all pressures. Before applying pressure to the system, be sure all connections are tight and that hoses and, or fittings are not damaged. Fluid escaping from a very small hole can almost be invisible. Use a piece of paper or cardboard, rather than hands, to search for suspected leaks.

## TROUBLE SHOOTING

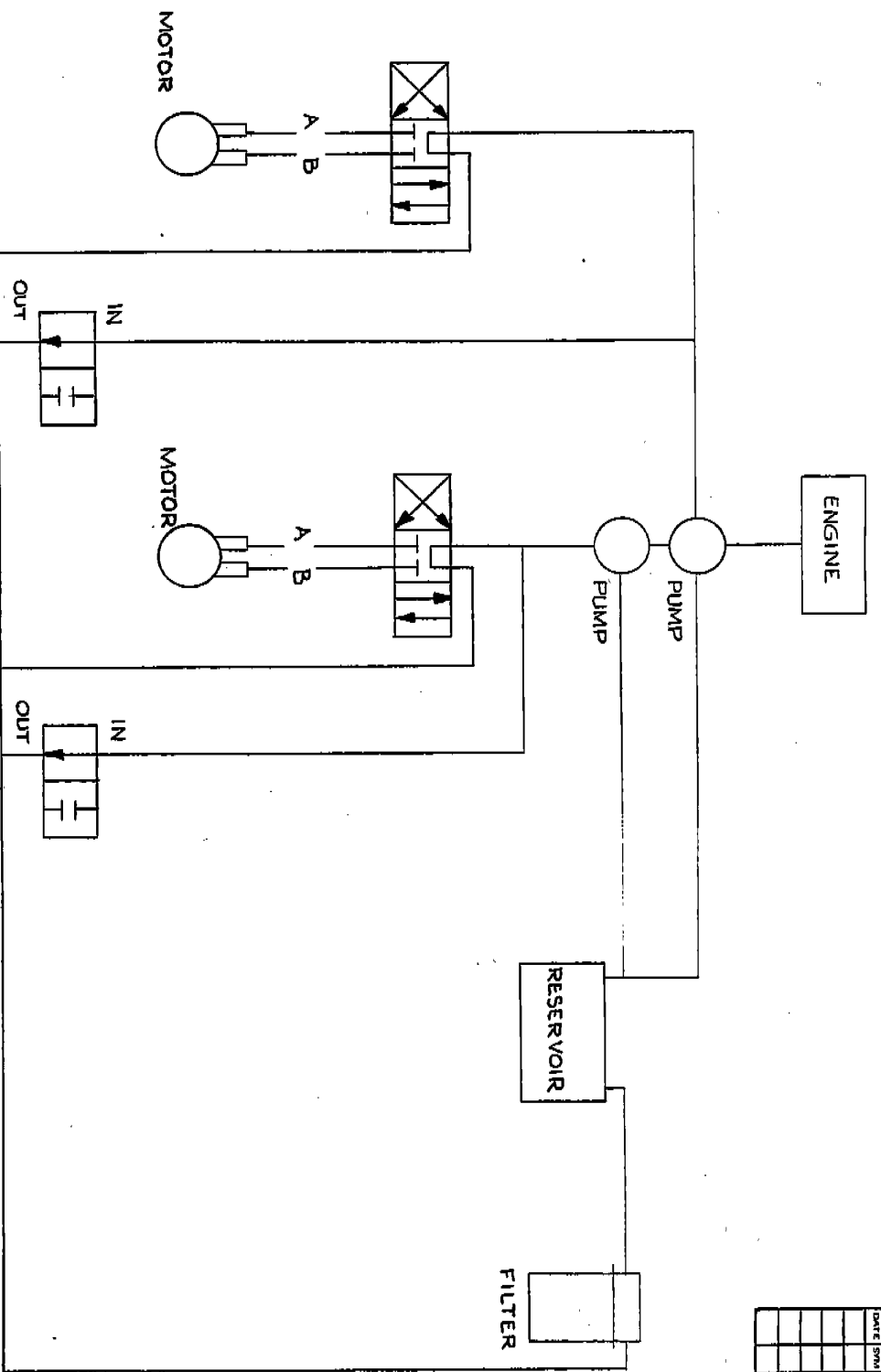
### SYMPTOM

### PROBLEM

### CORRECTION

*Engine Fails To Start	*Spark Plug Wire Loose or disconnected *Spark Plug improperly gapped or fouled *Ignition Switch Not In Proper Position	*Secure good connection *Regap or Replace Plug *When using Remote Switch the Engine's Switch must be in the On Position. When using Engine's Switch the Remote Switch must be in the On Position.
*Engine Fails to Turn Over	*Battery Failure or Too Low of a Charge *Poor Ground or Loose Connection	*Recharge or Replace Battery *Check Electrical Connections
*Engine Overheats	*Crankcase Level Low *Cooling Fins Dirty or Plugged *Oil Breakdown	*Keep oil at Proper Level *Clean Cooling Fins *Use Proper Weight Oil for the Conditions and Temperature
*Vehicle Running Erratic and Moving Slow	*Oil (Hydraulic) Level Low *Air Entering Hydraulic System	*Maintain Proper Level (See Preparation Specs.) *Make Sure All Hydraulic Connections are Tight.
*Engine Running Erratically	*Carburetor Adjustment required for Variation In Fuel Temperature or Altitude	*Adjust Carburetor (See Mfg's. Specs.)
*Engine Running, but Vehicle Won't Move	*Control Levers are not being pushed or pulled *Pump not being driven, coupling hubs separated or keys missing or broken *Hydraulic Solenoid Valves are not Activated *Hydraulic Motor/Drive Axle not connected. Key Sheared *Hydraulic Fluid Internally by-passing	*Direct oil by pushing or pulling control levers *Reassemble couplings or replace keys *Check Power - Activate Solenoid Valves *Reassemble Drive Coupling/ Replace Key *Contact Manufacturer

DATE	REV	REVISION RECORD	AUTH	DR	CHK



TOLERANCES (UNLESS AS NOTED)		FOSTER MFG. RACINE, WI	
DECIMAL		SCALE	NONE
FRACTIONAL		DRAWN BY	g.g.c.
		APPROVED BY	
TITLE	SCHEMATIC - BUMPER CAR		
DATE	12-11-95		
DRAWING NUMBER			

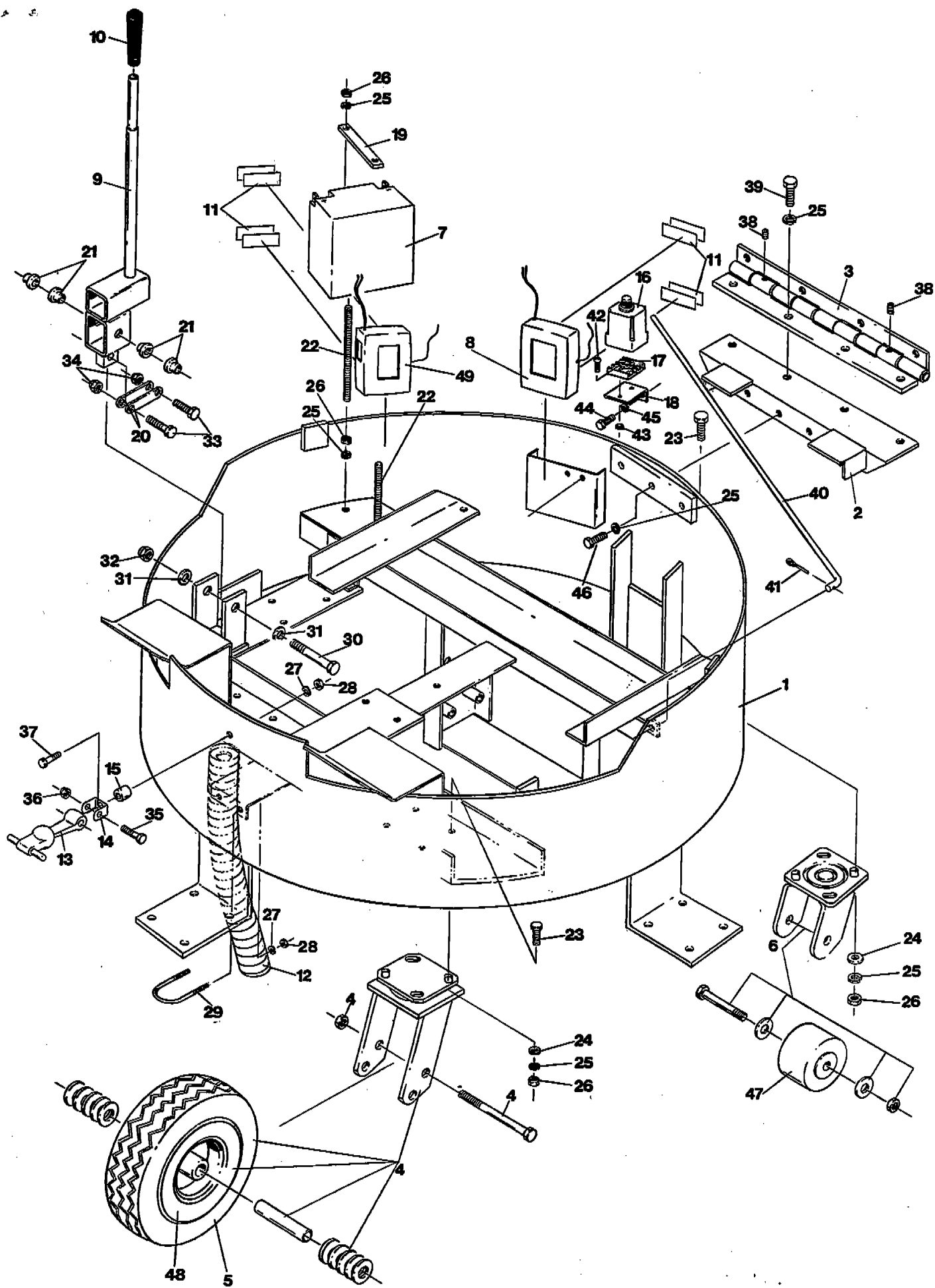
K-E CRAYSTONE © 1917  
ENGINEERS' STANDARD FORM

MADE IN U.S.A.

# Repair Parts - Main Frame

Key#	Part #	Description	List Cost	Dealer Cost
1	260100	Main Frame Weldment	\$1,065.00	\$796.00
2	260101	Pivot Hinge Mounting Bracket	\$45.35	\$34.00
3	260102	Pivot Hinge, Body	\$50.00	\$37.50
4	260103	Front Caster/Tire Assembly Complete	\$153.50	\$115.00
5	260104	4:10/3:50 x 4" Tire	\$17.25	\$12.95
6	260105	Outrigger Caster Assembly Complete	\$36.75	\$27.50
7	260106	Battery, 12v., 18 A.H.	\$100.00	\$75.00
8	260107	12v. D.C., Digital Receiver, Run Circuit	\$99.35	\$74.50
9	260108	Control Handle Weldment	\$52.00	\$39.00
10	260109	Grip, Control Handle	\$6.00	\$4.50
11	260110	Mounting Strips, Receiver	\$5.25	\$3.95
12	260111	Exhaust Tube, 1-1/2" x 22" Flex Tube	\$20.60	\$15.45
13	260112	Flexible Hold down Strap, Body	\$10.60	\$7.95
14	260113	Mounting Bracket, Strap	\$4.00	\$3.00
15	260114	Mounting Bracket, Spacer	\$3.00	\$2.25
16	260115	Adjustable Timer, 12v D.C. Delay/Relay	\$116.00	\$87.00
17	260116	Sub-Base Electrical 8-pin Mount	\$6.60	\$4.95
18	260117	Sub-Base Mounting Bracket	\$6.35	\$4.75
19	260118	Hold Down Strap, Battery	\$5.25	\$3.95
20	260119	Control Arm Pivot Links	\$3.35	\$2.50
21	260120	Bronze Bushings 1/2" I.D. x 3/4" O.D.	\$3.95	\$2.95
22	260121	3/8"-16 x 8" Threaded Rod	\$3.70	\$2.75
23	260122	3/8"-16 x 1-1/4" HHCS	\$0.65	\$0.50
24	260123	3/8" Flatwasher	\$0.50	\$0.35
25	201016	3/8" Split Lockwasher	\$0.40	\$0.30
26	260124	3/8"-16 Hex Nut	\$0.50	\$0.35
27	250138	5/16" Split Lockwasher	\$0.40	\$0.30
28	260125	5/16"-18 Hex Nut	\$0.40	\$0.30
29	260126	5/16"-18 x 2" U-Bolt	\$5.70	\$4.25
30	260127	1/2"-13 x 4" HHCS	\$3.35	\$2.50
31	260128	3/4" FlatWasher	\$0.60	\$0.45
32	260129	1/2"-13 Hex Nyloc	\$0.65	\$0.50
33	260130	3/8"-16 Hex Nyloc	\$0.75	\$0.55
34	260131	3/8"-16 Hex Nyloc	\$0.60	\$0.45
35	260132	1/4"-20 x 1-1/2" HHCS	\$1.15	\$0.85
36	260133	1/4"-20 Hex Nyloc	\$0.60	\$0.45
37	260134	5/16"-18 x 1-1/2" HHCS	\$0.75	\$0.55
38	250218	1/4"-20 x 1/4" Cup Point Set Screw	\$0.60	\$0.45
39	260135	3/8"-16 x 1" HHCS	\$0.60	\$0.45
40	260136	Support Arm, Body	\$18.70	\$14.00
41	260137	Cotter Pin, 1/8" x 3/4"	\$0.65	\$0.50
42	260138	8-32 x 1" SFMS	\$0.55	\$0.40
43	260139	8-32 Hex Nyloc	\$0.60	\$0.45
44	260140	1/4-20 x 1/2" HHCS	\$0.75	\$0.55
45	201010	1/4" Split Lockwasher	\$0.35	\$0.25
46	201015	3/8"-16 x 1-3/4" HHCS	\$0.75	\$0.55
47	260141	Phenolic Wheel	\$13.25	\$9.95
48	260142	Hub/Rim Assembly	\$28.00	\$21.00
49	260143	12v. D.C. Digital Receiver, Emerg. Circuit	\$99.35	\$74.50

effective January 1st., 1996

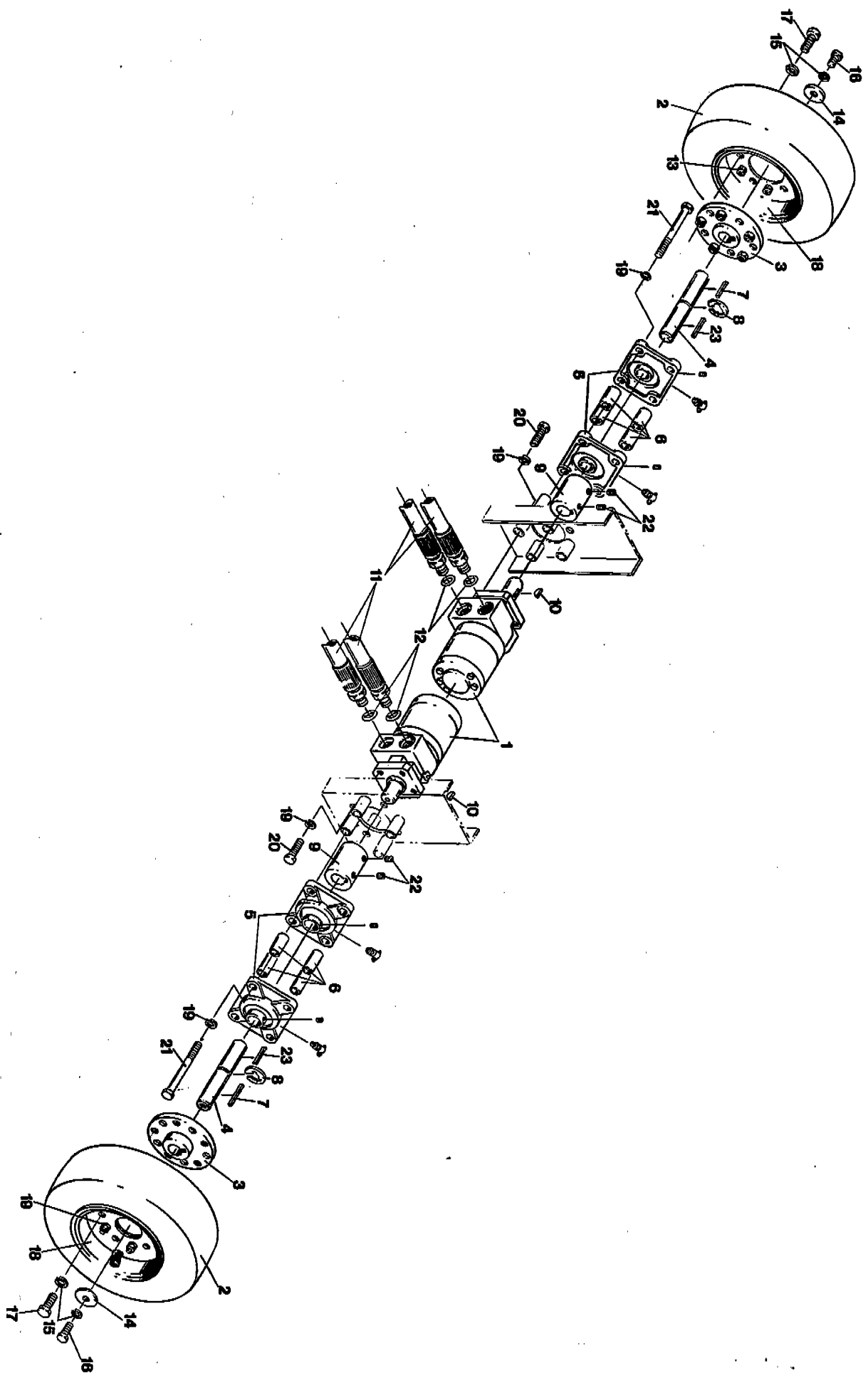




# Repair Parts/Drive Group

Key#	Part #	Description	List Cost	Dealer Cost
1	260400	Hydraulic Motor	\$380.00	\$285.00
2	260401	4:10/3:50 x 6" Slick Drive Tire	\$18.60	\$13.95
3	260402	Drive Hub/Flange Assembly	\$66.35	\$49.75
4	260403	Drive Axle	\$33.00	\$24.75
5	260404	Flange Bearings, 1" Diameter	\$29.95	\$22.45
6	260405	Bearing Stacking Spacers	\$3.25	\$2.45
7	260406	Key, 1/4" square x 1-1/2" Long	\$1.25	\$0.95
8	260407	E'-Ring	\$1.35	\$1.00
9	260408	Drive Coupling	\$32.35	\$24.25
10	260409	Woodruf Key	\$1.25	\$0.95
11	260410	3/8" Pr. Hose, 7/8-14 Straight x 3/8 Male x 22" Long	\$32.00	\$24.00
12	260411	O'-Ring, 7/8-14 Str. Thread Hose End	\$1.25	\$0.95
13	260412	3/8-16 x 3/4" SHCS	\$0.65	\$0.50
14	201019	3/8" Fender Washer	\$0.55	\$0.40
15	250138	5/16" Split Lockwasher	\$0.40	\$0.30
16	260413	5/16-18 x 3/4" HHCS	\$0.60	\$0.45
17	260414	5/16-18 x 1" HHCS	\$0.60	\$0.45
18	260415	Heavy-Duty Split Rim Assembly	\$65.00	\$48.75
19	201016	3/8" Split Lockwasher	\$0.40	\$0.30
20	260416	3/8"-16 x 2-1/4" HHCS	\$1.65	\$1.25
21	260417	3/8"-16 x 4" HHCS	\$2.60	\$1.95
22	260418	3/8"-16 x 3/8" Cup Point Set Screw	\$0.65	\$0.50
23	260419	Key, 1/4" Square x 1" Long	\$1.25	\$0.95

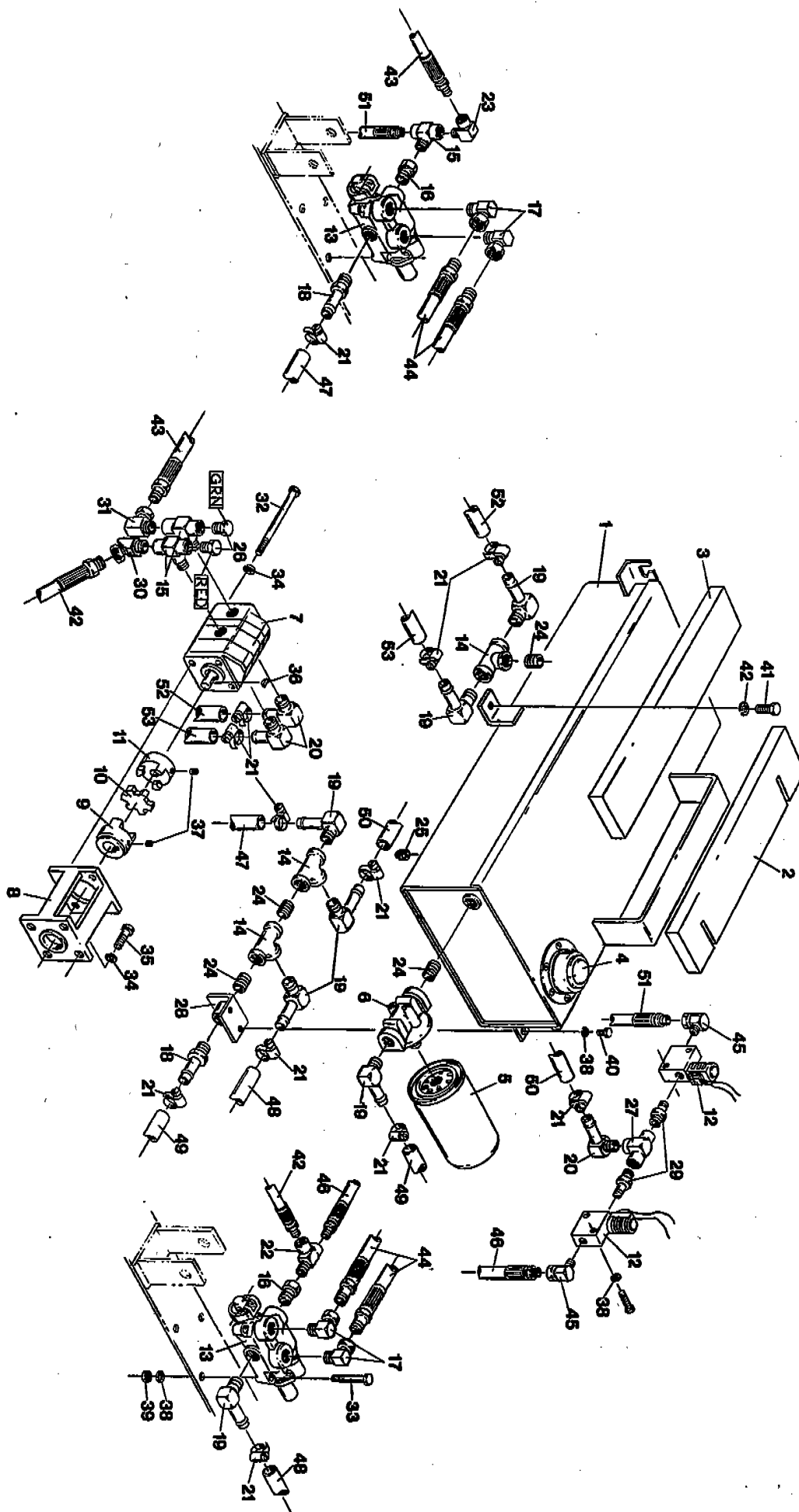
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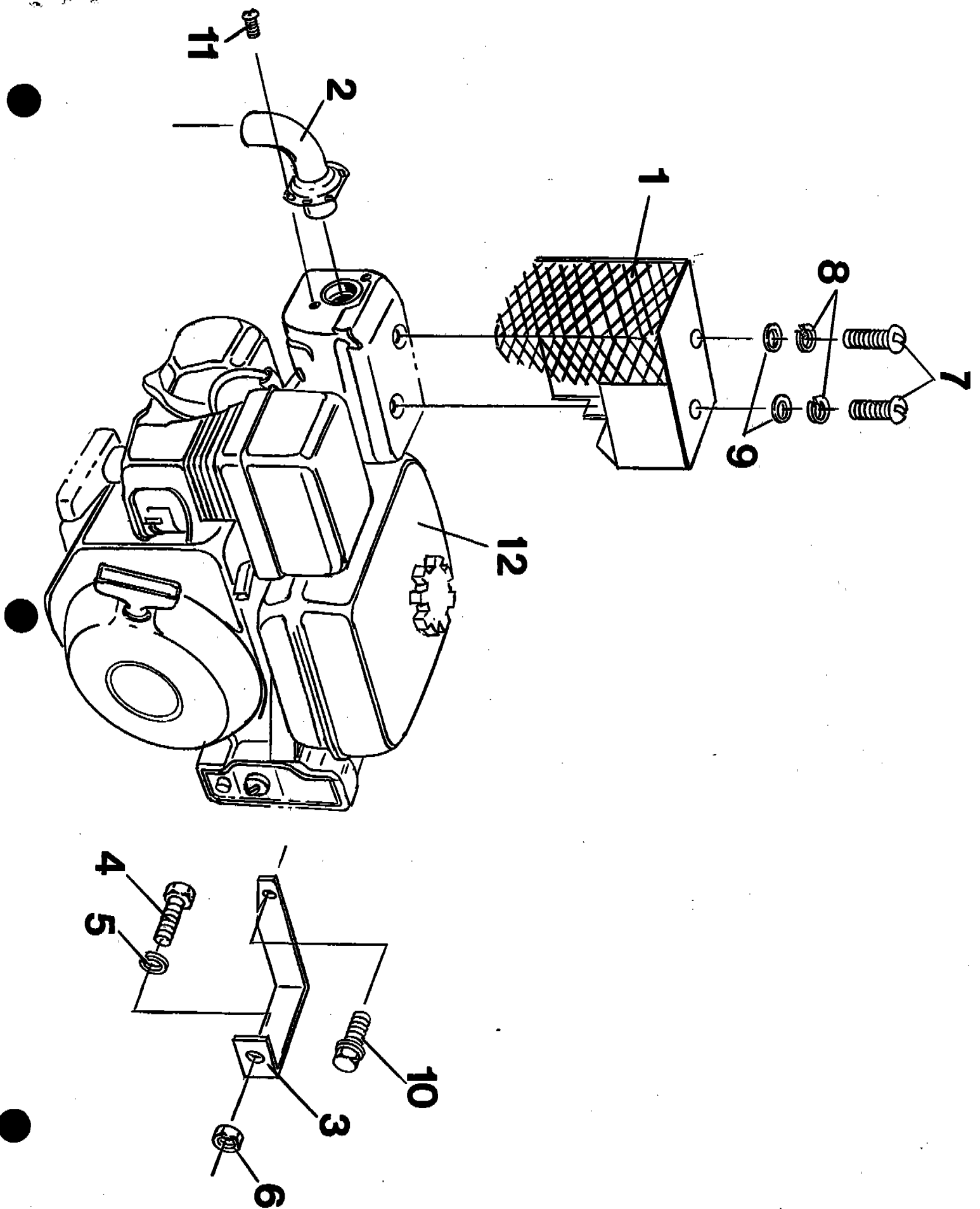
# Repair Parts/Hydraulic Group

Key #	Part #	Description	List Cost	Dealer Cost
1	260001	Hydraulic Reservoir	\$300.00	\$225.00
2	260002	Insulation Spacer, Rear Panel	\$7.25	\$5.45
3	260003	Insulation Spacer, Front Panel	\$5.65	\$4.25
4	260004	Filler/Breather Cap Assembly	\$23.00	\$17.25
5	260005	Return Line Filter Element	\$23.75	\$17.75
6	260006	Manifold Head, Return Line Filter	\$24.70	\$18.50
7	260007	Hydraulic Pump	\$380.00	\$285.00
8	260008	Pump/Engine Mounting Adapter	\$52.65	\$39.50
9	260009	Lovejoy Drive Coupling, 3/4" Bore	\$16.60	\$12.45
10	260010	Drive Coupling Spider	\$7.00	\$5.25
11	260011	Lovejoy Drive Coupling, 7/16" Bore	\$16.60	\$12.45
12	260012	Hydraulic Solenoid Cartridge Valve	\$119.75	\$89.75
13	260013	4-Way, 3-Position Manual Direct Valve	\$253.50	\$190.00
14	260014	3/4" N.P.T. Female Tee Black Pipe	\$3.80	\$2.85
15	260015	3/8" N.P.T. Branch Run Tee Steel	\$8.60	\$6.45
16	260016	Bushing 3/4" x 3/8" Steel	\$3.20	\$2.40
17	260017	90dgr. 1/2 NPT Male x 3/8" NPT Female Swivel	\$11.70	\$8.75
18	260018	Straight Fit. 3/4" NPT Male x 5/8" Hose Barb	\$11.95	\$8.95
19	260019	90dgr. 3/4" NPT Male x 5/8" Hose Barb	\$12.60	\$9.45
20	260020	90dgr. 1/2" NPT Male x 5/8" Hose Barb	\$11.35	\$8.50
21	260021	Worm Gear Clamp	\$1.65	\$1.25
22	260022	3/8" N.P.T. Male Run Tee	\$8.60	\$6.45
23	260023	90dgr. 3/8"NPT Male x 3/8" NPT Female	\$9.60	\$7.20
24	260024	3/4"N.P.T. Close Nipple	\$1.35	\$1.00
25	260025	3/4"N.P.T. Pipe Plug	\$1.65	\$1.25
26	260026	3/8"N.P.T. Pipe Plug	\$3.00	\$2.25
27	260027	1/2" N.P.T. Tee	\$9.25	\$6.95
28	260028	Manifold Mounting Bracket	\$19.00	\$14.25
29	260029	Straight Fit. 1/2" NPT Male x 5/8" Hose Barb	\$11.00	\$8.25
30	260030	45dgr. 3/8" NPT Male x 3/8" NPT Female Swivel	\$11.70	\$8.75
31	260031	90dgr. 3/8" NPT Male x 3/8" NPT Female Swivel	\$11.35	\$8.50
32	260032	5/16-18 x 5-1/2" HHCS	\$3.00	\$2.25
33	260033	1/4"-20 x 1-3/4" HHCS	\$1.15	\$0.85
34	250138	5/16" Split Lockwasher	\$0.40	\$0.30
35	260035	5/16"-24 x 1" HHCS	\$1.00	\$0.75
36	260036	3/32" Woodruff Key	\$1.25	\$0.95
37	260037	5/16"-18 x 7/16" Cup Point Set Screw	\$0.60	\$0.45
38	201010	1/4" Split Lockwasher	\$0.35	\$0.25
39	201011	1/4"-20 Hex Nut	\$0.45	\$0.35
40	201014	1/4"-20 x 3/4" HHCS	\$0.60	\$0.45
41	260038	3/8"-16 x 1" HHCS	\$0.60	\$0.45
42	201016	3/8" Split Lockwasher	\$0.40	\$0.30
43	260039	3/8" Pressure Hose, Green Marking	\$22.75	\$17.00
44	260040	3/8" Pressure Hose, Choice of Yellow or Blue Mark.	\$32.00	\$24.00
45	260041	90dgr. 1/4"NPT Male x 1/4" NPT Female Swivel	\$9.15	\$6.85
46	260042	3/8" PR Hose 3/8"NPT Male x 1/4"NPT Male x 22" LG.	\$22.75	\$17.00
47	260043	5/8" Return Line x 30" Long	\$12.00	\$9.00
48	260044	5/8" Return Line x 25" Long	\$11.00	\$8.25
49	260045	5/8" Return Line x 13-1/2" Long	\$9.00	\$6.75
50	260046	5/8" Return Line x 9" Long	\$7.95	\$5.95
51	260047	3/8"PR Hose 3/8"NPT Male x 1/4"NPT Male x 32" LG.	\$36.75	\$27.50
52	260048	5/8" Return Line x 11-1/2" Long	\$8.65	\$6.50
53	260049	5/8" Return Line x 13" Long	\$9.00	\$6.75

effective January 1st., 1996 .

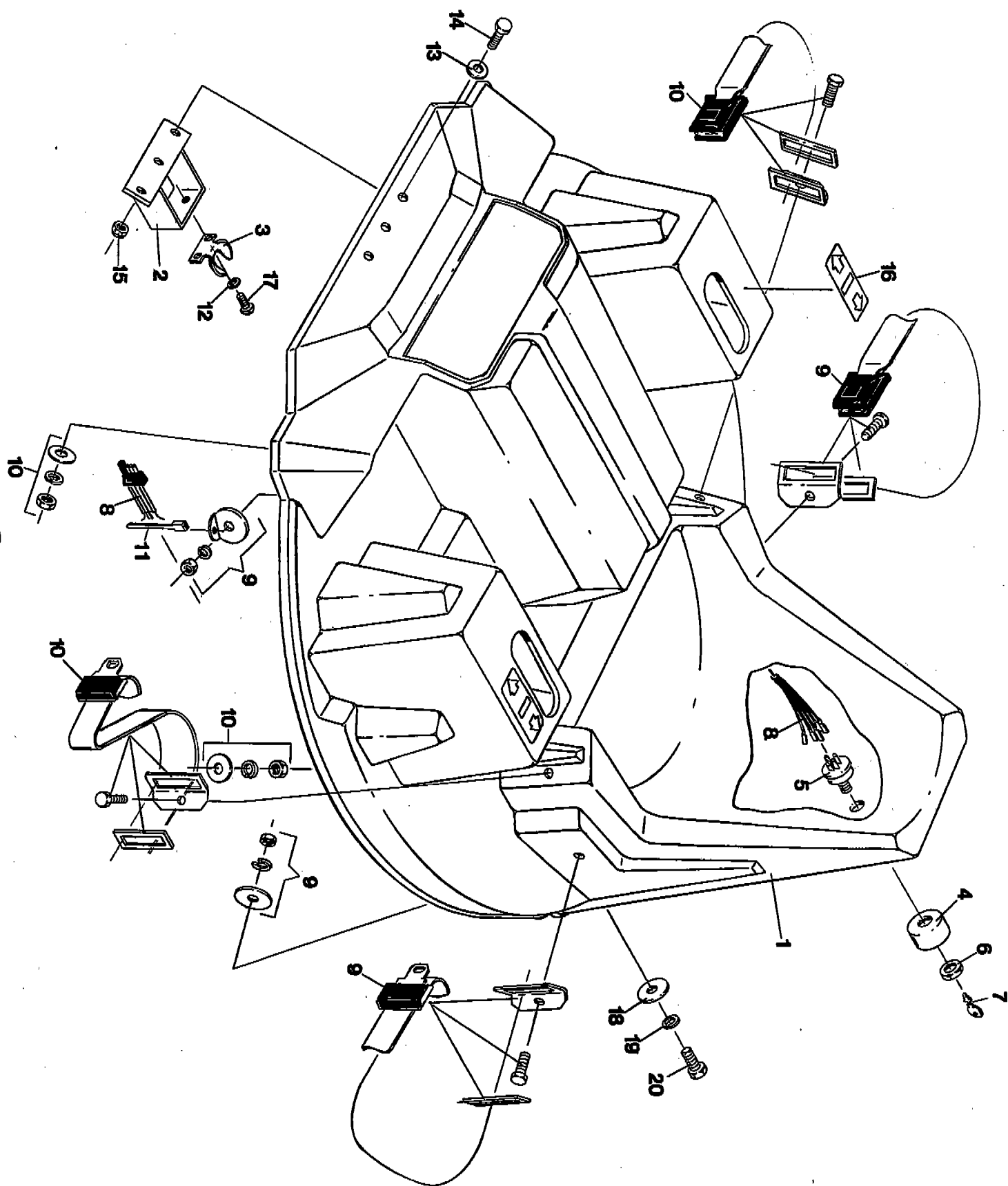


Key#	Part #	DESCRIPTION	List Cost	Dealer Cost
1	260300	Muffler Deflector/Guard Assembly	\$58.25	\$43.75
2	260301	Exhaust Pipe Deflector	\$26.50	\$19.90
3	260302	Starter/Control Box, Support Bracket	\$16.50	\$12.40
4	260303	1/4"-20 x 1/2" HHCS	\$0.75	\$0.55
5	201010	1/4" Split Lockwasher	\$0.35	\$0.25
6	260133	1/4"-20 Hex Nyloc	\$0.60	\$0.45
7	260134	10-32 x 7/8" SMS	\$0.55	\$0.40
8	250107	10-32 Split Lockwasher	\$0.35	\$0.25
9	260135	10-32 Flatwasher	\$0.35	\$0.25
10	260304	6 x 10 Flange Bolt	\$0.65	\$0.50
11	260305	4 x 6 Tapping Screw	\$0.35	\$0.25
12	260306	Stock GX-160 Honda Engine Model No. GX160K1QXE2	\$685.00	\$515.00

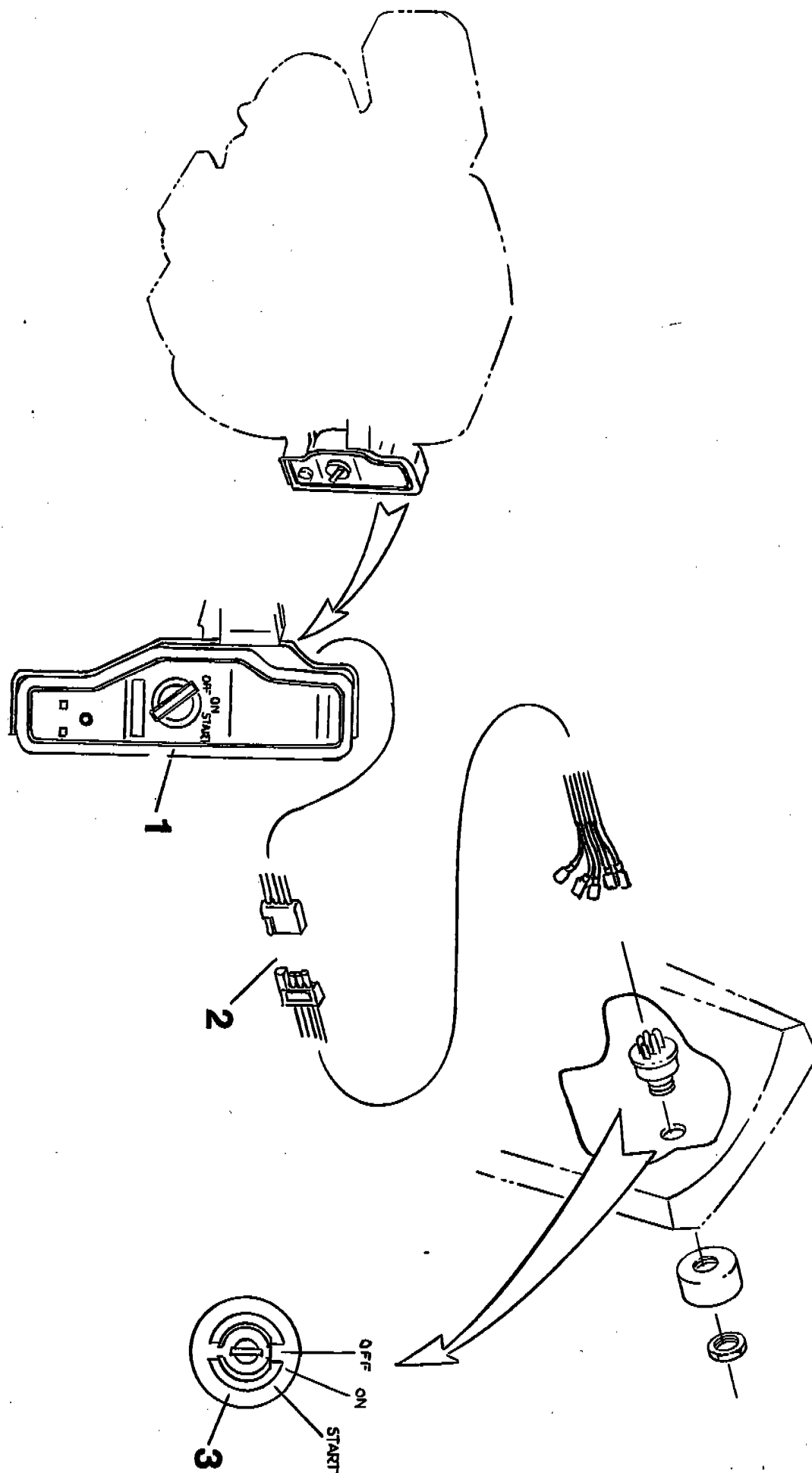


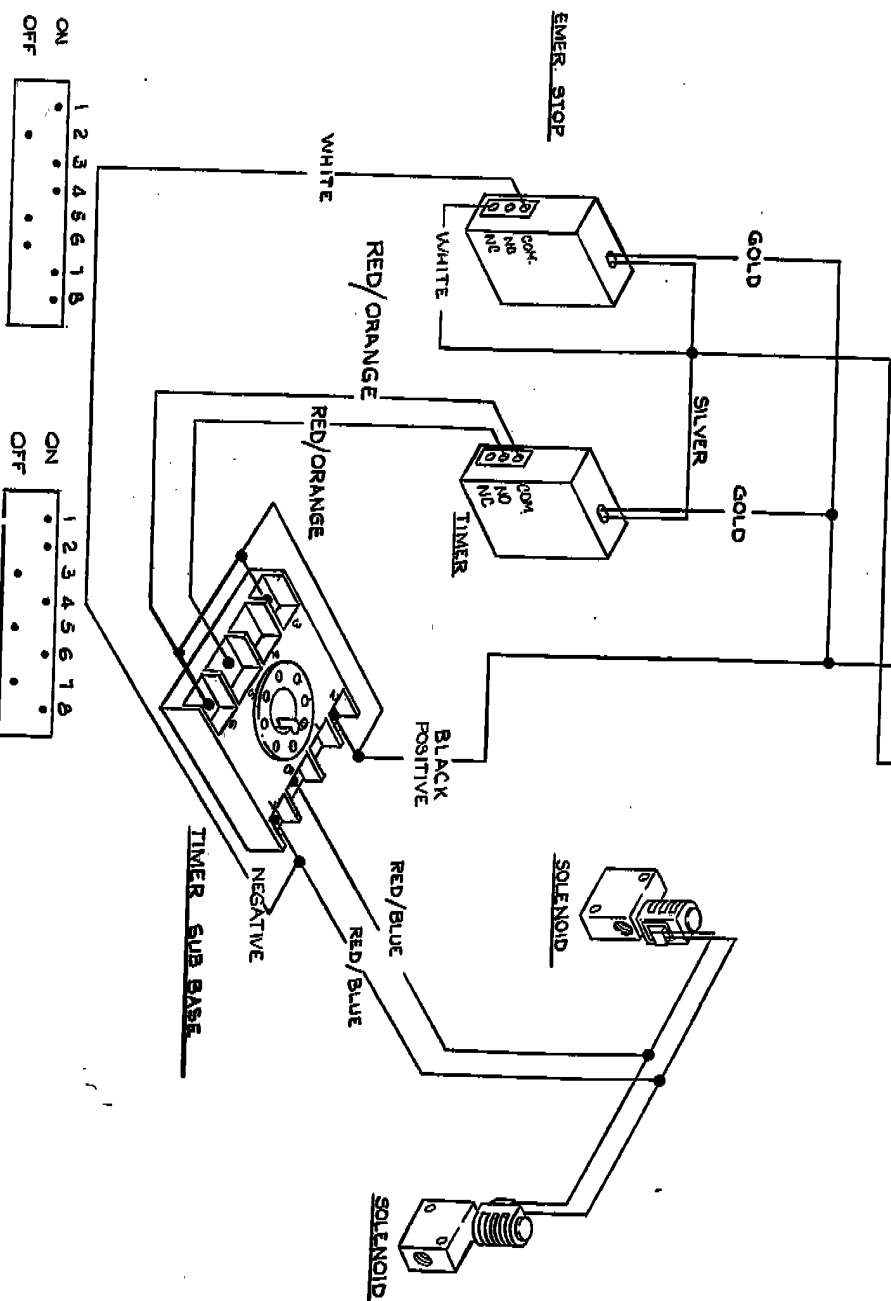
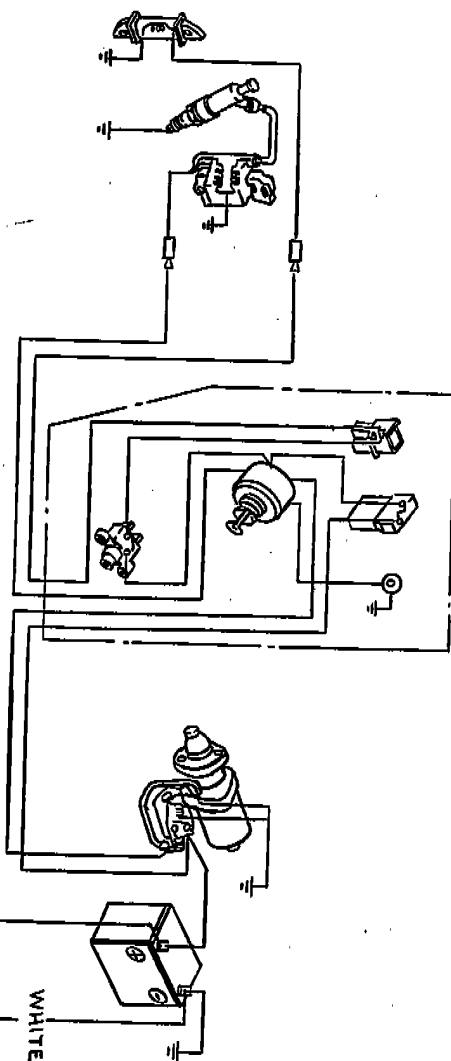
# Repair Parts/Body Group

Key #	Part #	Description	List Cost	Dealer Cost
1	260200	Fiberglass Body w/Vinyl Trim Molding	\$965.00	\$725.00
2	260201	Receiver Mounting Bracket	\$21.25	\$15.95
3	260202	Latching Strap Receiver	\$5.25	\$3.95
4	260203	Remote Key Protective Guard	\$6.50	\$4.85
5	260204	Ignition Switch	\$13.25	\$9.95
6	260205	Ignition Locking Nut	\$1.65	\$1.25
7	260206	Ignition Key, Remote Switch	\$1.35	\$1.00
8	260207	Ignition Wiring Harness	\$16.70	\$12.50
9	260208	Seat Belt Assembly w/Hdwe.,Adult Size	\$26.60	\$19.95
10	260209	Seat Belt Assembly w/Hdwe.,Child Size	\$26.60	\$19.95
11	260210	Plastic Tie	\$0.35	\$0.25
12	250107	10-32 Split Lockwasher	\$0.35	\$0.25
13	260211	1/4" Fender Washer	\$0.40	\$0.30
14	201009	1/4"-20 x 7/8" HHCS	\$0.60	\$0.45
15	260133	1/4"-20 Hex Nyloc	\$0.60	\$0.45
16	260212	Directional Decal	\$3.00	\$2.25
17	260213	10-32 x 1/2" SMS	\$0.55	\$0.40
18	201019	3/8" Fender Washer	\$0.55	\$0.40
19	201016	3/8" Split Lockwasher	\$0.40	\$0.30
20	260038	3/8"-16 x 1" HHCS	\$0.60	\$0.45









ON  
OFF

1 2 3 4 5 6 7 8

TIMER

ON  
OFF

1 2 3 4 5 6 7 8

EMERGENCY STOP

TRANSMITTER SETTINGS