

## Honda GX35 Gas Pack Back Pack & Hand Held Operator/Service Manual



### **Hours of Operation**

8:00AM to 4:30PM Mon. - Fri. Eastern Standard Time

277 North Main Street PO Box 367 Mansfield, OH 44902

www.minnich-mfg.com e-mail: sales@minnich-mfg.com

Form: LIT-019 Revised 7/1/2007

Phone: 419.524.1000 Toll Free: 800.524.1033 Fax: 419.524.4000

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## MINNICH MANUFACTURING CO. WARRANTY AND SERVICE AGREEMENT

Minnich Manufacturing Co. warrants to the original purchaser that, if any part of the product proves defective in material or workmanship within one year from purchase, and is returned to Minnich Manufacturing Co. within 90 days after the defect is discovered, Minnich Manufacturing Co. will at its option repair or replace said part. Product shipped to Minnich Manufacturing Co. freight prepaid will be returned freight prepaid. Product shipped to Minnich Manufacturing Co. freight collect will be returned freight collect.

### **LIMITATIONS:**

Warranty does not apply to repairs that are required because of normal wear or tear, parts or products that are damaged as a result of misuse, neglect, accident or fire, or of lightning, flooding or other acts of God, or by improper installation or maintenance, of which Minnich Manufacturing Co. will be the sole judge. Warranty does not apply to parts or products that have been modified by an unauthorized party that has in Minnich Manufacturing Co.'s judgment affected their performance or reliability. Warranty does not apply if the part or product substantially fulfills the performance specifications.

Minnich Manufacturing Co. shall not in any event be liable for the cost of any special, indirect, or consequential damages as a result of this product.

### **SERVICE:**

Out of warranty service is available through Minnich Manufacturing Co.

### **GENERAL SAFETY RULES**

This manual contains NOTES, CAUTIONS, and WARNINGS. These MUST be followed to prevent the possibility of improper use, incorrect servicing, damaging the equipment, or personal injury. Read and comply with all NOTES, CAUTIONS and WARNINGS included in these instructions.

**NOTE:** Notes contain additional information important to the operation of the equipment.

**CAUTION:** Cautions provide important information to prevent mistakes that could result in damage to the equipment.

**WARNING:** Warnings alert one to practices or conditions that could lead to personal injury or death!

### **A** WARNING

Read and understand all instructions.

Failure to follow all instructions listed below may result in one or all of the following; electric shock, fire, and serious injury.

WARNING
DO NOT USE TOOL IF IT IS IN NEED OF SERVICE!

**SAVE THESE INSTRUCTIONS** 

### - WORK AREA -

Keep your work area clean and well lit.

Cluttered and dark areas invite accidents.

DO NOT operate power tools in explosive atmospheres, such as, in the presence of flammable liquids, gases, or dust.

Power tools create sparks that may ignite the dust or fumes.

Keep bystanders, children, and visitors away while operating a power tool.

Distractions can cause you to lose control.

### - PERSONAL SAFETY -

Stay alert, watch what you are doing and use common sense when operating a power tool. DO NOT use tool while tired or under influence of drugs, alcohol or medication.

A moment of inattention while operating power tools may result in serious personal injury.

Dress properly. DO NOT wear loose clothing, or jewelry. Tie up long hair. Keep your hair, clothing, and gloves away from moving parts.

Loose clothes, jewelry, or long hair can be caught in moving parts.

Avoid accidental starting. Be sure switch is off before plugging in.

Carrying tools with your finger on the switch or plugging in tools that have switches on invites accidents.

DO NOT overreach. Keep proper footing and balance at all times.

Proper footing and balance enables better control of the tool in unexpected situations.

Use safety equipment. Always wear eye protection.

Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

### - TOOL USE AND CARE -

DO NOT force 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.

DO NOT use tool if switch does not turn it on or off.

Any tool that cannot be controlled with the switch is dangerous and must be repaired.

Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool.

Such preventive safety measures reduce the risk of starting the tool accidentally.

Store tools out of the reach of children and other untrained persons.

Tools are dangerous in the hands of untrained users.

Maintain tools with care. Keep tools clean.

Properly maintained tools are less likely to bind and are easier to control.

Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tools operation. If damaged, have the tool serviced before using.

Many accidents are caused by poorly maintained tools.

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 -

Tool service must be performed only by qualified repair personnel.

Service or maintenance performed by unqualified personnel could result in a risk of injury.

When servicing a tool, use only identical replacement parts. Follow instructions in the maintenance section of this manual.

Use of unauthorized parts or failure to follow maintenance instructions may create a risk of injury.

# Back Pack Flex Shaft Specs.



ENGINE	HONDA GX35 MINI 4-STROKE
POWER	1.3HP (1.0kw)
RPM (ENGINE/HEAD)	8000-9000
DISPLACEMENT	35CC
FUEL CAPACITY	20 FL OZ, (.59 I)
CLUTCH	2 SHOE CENTRIFUGAL
IGNITION	ELECTRIC
CARBURETOR	ALL POSITION DIAPHRAGM/PRIMER FOR EASY START
MOUNT	ANTI-VIBRATION
SHAFT	7/8" (22.2mm) OD CASING
	19.5lbs. (8.84kg)

Recommended Shaft Length	7' (2.1mm)	10' (3.0m)	14' (4.3m)
Recommended Head Sizes	3/4", 1", 1-3/8", 1-3/4", 2", 2-3/8"	3/4", 1", 1-3/8", 1-3/4"	3/4", 1", 1-3/8"

Head Diameter	Centrifugal Force	Amplitude	Diameter of Influence
3/4" (19mm)	105lbs. (467N)	.050" (1.27mm)	4"-6" (101mm-152mm)
1" (25mm)	150lbs. (671N)	.056" (1.42mm)	5"-7"- (127mm-177mm)
1-3/8" (35mm)	424lbs. (1886N)	.070" (1.77mm)	8"-14" (203mm-355mm)
1-3/4" (45mm)	795lbs. (3536N)	.102" (2.59mm)	16"-20" (406mm-508mm)
2" (50mm)	1000lbs. (4448N)	.090" (2.28mm)	20"-124" (2508mm-609mm)
2-3/8" (60mm)	1186lbs. (5275N)	.092" (2.33mm)	23"-27" (584mm-685mm)

### See Honda Engines Owners Manual for use and care of GX35 Engine

Specifications are nominal values and will vary depending on the size and range of aggregate, and the slump of the concrete.

Specifications taken at 10,500VPM.

# Hand Held Flex Shaft Specs.



ENGINE	HONDA GX35 MINI 4-STROKE
POWER	1.3HP (1.0kw)
RPM (ENGINE/HEAD)	8000-9000
DISPLACEMENT	35CC
FUEL CAPACITY	20 FL OZ (.59 I)
	2 SHOE CENTRIFÙGAL
IGNITION	ELECTRIC
CARBURETOR	ALL POSITION DIAPHRAGM/PRIMER FOR EASY START
MOUNT	ANTI-VIBRATION
SHAFT	7/8" (22.2mm) OD CASING
WEIGHT	19.Ślbs. (8.84kg)

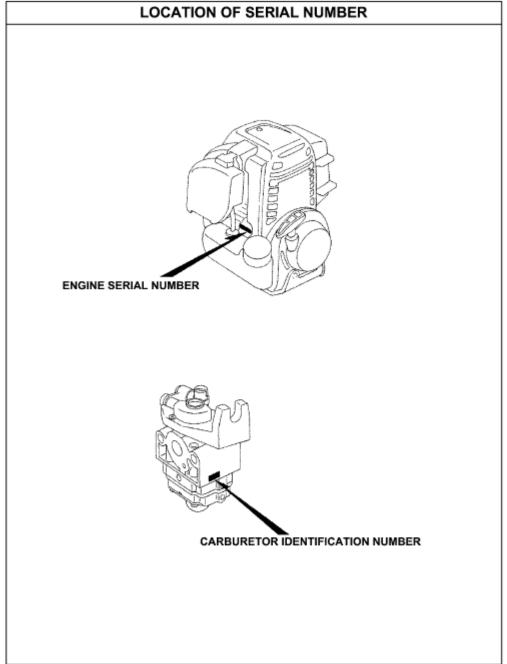
Recommended Shaft Length 3' straight-rigid with 2' flex	3' bent-rigid with 2' flex	2' straight-rigid with 5'flex
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Head Diameter	Centrifugal Force	Amplitude	Diameter of Influence
3/4" (19mm)	105lbs. (467N)	.050" (1.27mm)	4"-6" (101mm-152mm)
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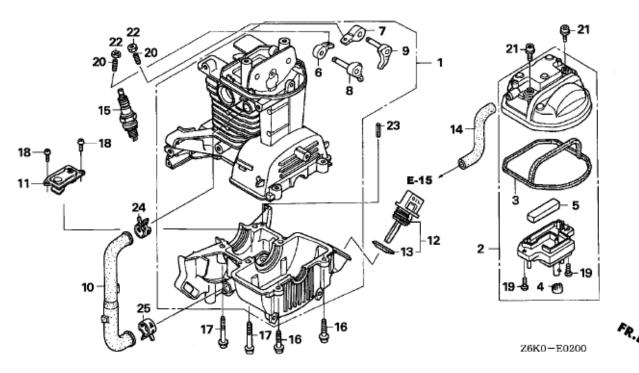
Specifications are nominal values and will vary depending on the size and range of aggregate, and the slump of the concrete.

Specifications taken at 10,500VPM.



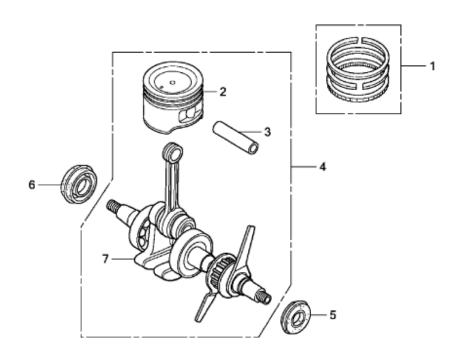
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### **E-2 Crankcase Set**



FIG#	PART#	DESCRIPTION	QTY
1	012120-00001	CRANKCASE SET	1
2	012120-00002	COVER, CYLINDER HEAD	1
3	012120-00003	SEAL, HEAD COVER	1
4	012120-00004	GROMMET, HEAD COVER	1
5	012120-00005	FILTER, BREATHER	1
6	012120-00006	ARM, INTERNAL VALVE ROCKER	1
7	012120-00007	ARM, EXTERNAL VALVE ROCKER	1
8	012120-00008	LIFTER COMP., INTERNAL VAVLE	1
9	012120-00009	LIFTER COMP., EXTERNAL VALVE	1
10	012120-00010	TUBE, OIL	1
11	012120-00011	PLATE ASSEMBLY, OIL OUTLET VALVE	1
12	012120-00012	CAP ASSEMBLY, OIL FILLER	1
13	012120-00013	PACKING, OIL FILLER CAP	1
14	012120-00014	TUBE, BREATHER	1
15	012120-0015A 012120-0015B 012120-0015C	PLUG, SPARK (CMR4H)(NGK) OPTIONAL PLUG, SPARK (CRM5H)(NGK) PLUG, SPARK (CRM6H)(NGK) OPTIONAL	(1) 1 (1)
16	012120-00016	BOLT, SOCKET, 5 X 20	2
17	012120-00017	BOLT, SOCKET, 5 X 32	4
18	012120-00018 012120-0018A	SCREW, PAN, 4 X 8 (UP TO SERIAL # 1002284) SCREW, PAN, 4 X 8 (FROM SERIAL # 1002285 & UP)	2 2
19	012120-00019 012120-0019A	SCREW, PAN, 4 X 8 (UP TO SERIAL # 1002284) SCREW, PAN, 4 X 8 (FROM SERIAL # 1002285 & UP)	2 2
20	012120-00020	SCREW, TAPPET ADJUSTING	2
21	012120-00021	BOLT, SOCKET, 5 X 12	2
22	012120-00022	NUT, TAPPET ADJUSTING	2
23	012120-00023	PIN, SPRING, 4 X 10	1
24	012120-00024	CLAMP, TUBE (D12)	1
25	012120-00025	CLAMP, TUBE (D13)	1

### E-7 Crankshaft/Piston

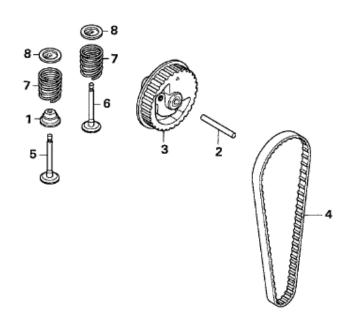




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FIG#	PART #	DESCRIPTION	QTY
1	012120-00026	RING SET, PISTON	1
2	012120-00027	PISTON	1
3	012120-00028	PIN, PISTON	1
4	012120-00029	CRANKSHAFT COMP.	1
5	012120-00030	OIL SEAL, 10 X 25 X 5 (UP TO SERIAL # 1002284)	1
5	012120-0030A	OIL SEAL, 10 X 25 X 5 (FROM SERIAL # 1002285 & UP)	1
6	012120-00031	OIL SEAL, 15 X 25 X 6 (UP TO SERIAL # 1002284)	1
6	012120-0031A	OIL SEAL 15 X 25 X 6 (FROM SERIAL # 1002285 & LIP)	1

### E-10 Cam Pulley

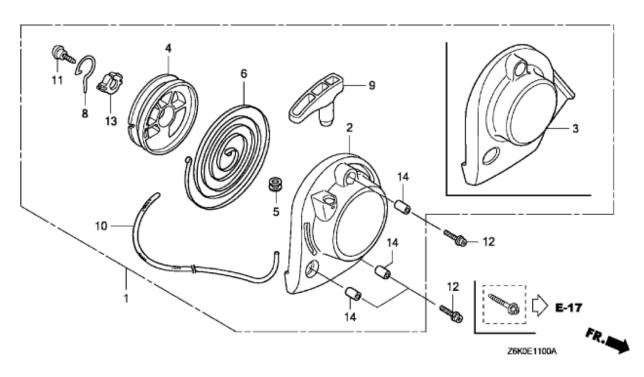




FIG#	PART #	DESCRIPTION	QTY
1	012120-00032	SEAL, VALVE STEM (UP TO SERIAL # 1002284)	1
	012120-00032	SEAL, VALVE STEM (FROM SERIAL # 1002285 & UP)	1
2	012120-00033	ROLLER, 4 X 31.8	1
3	012120-00034	PULLEY COMP., CAMSHAFT	1
4	012120-00035	BELT, TIMING (76ZU7 G-300) (UP TO SERIAL # 1002284)	1
4	012120-00033	BELT, TIMING (76ZU7 G-300)(FROM SERIAL # 1002285 & UP)	1
5	012120-00036	VALVE, INTERNAL	1
6	012120-00038	VALVE, EXTERNAL	1
7	012120-00039	SPRING, VALVE	2
8	012120-00040	RETAINER, VALVE SPRING	2

### E-11 Recoil Starter

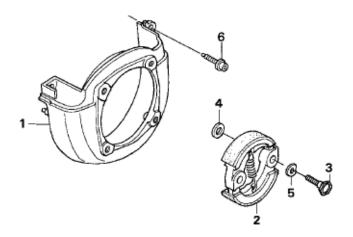




FIG#	PART#	DESCRIPTION	QTY
1	012120-00041	STARTER ASSEMBLY, RECOIL	1
2	012120-00042	CASE, RECOIL STARTER	1
4	012120-00043	REEL, RECOIL STARTER	1
5	012120-00044	GUIDE, ROPE	1
6	012120-00045	SPRING, RECOIL STARTER	1
7	012120-00046	PULLEY, RECOIL STARTER	1
8	012120-00047	ARM, SWING	1
9	012120-00048	KNOB, RECOIL STARTER	1
10	012120-00049	ROPE, RECOIL STARTER	1
11	012120-00050	SCREW, SETTING	1
12	012120-00051	BOLT, SOCKET 5 X 16	3
13	012120-00052	COLLAR	1
14	012120-00053	COLLAR A, HEAD COVER	3

### E-12 Fan Cover/Clutch





Z6K0-E1200

FIG#	PART#	DESCRIPTION	QTY
1	012120-00054	COVER, FAN	1
2	012120-00055	CLUTCH ASSEMBLY	1
3	012120-00056	BOLT, CLUTCH (8mm)	2
4	012120-00057	WASHER, CLUTCH (8 X 17)	2
5	012120-00058	WASHER, WAVE (10mm)	2
6	012120-00059	BOLT, SOCKET (% X 20)	3

### **E-14 Carburetor**

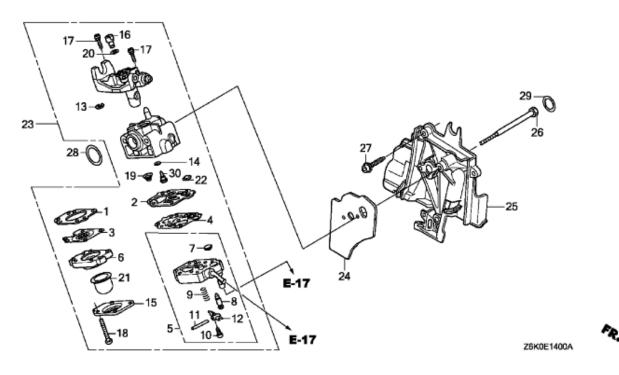
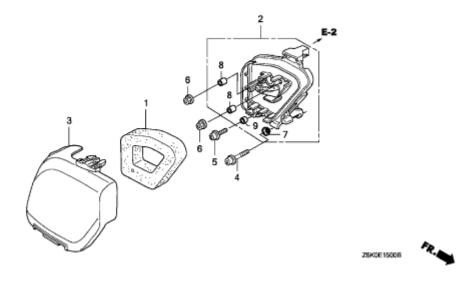


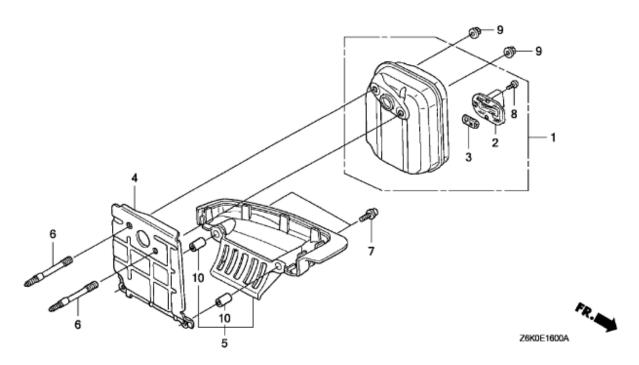
FIG # PART #		PART # DESCRIPTION	
1	012120-00060	GASKET, METERING DIAPHRAGM	1
2	012120-00061	GASKET, PUMP	
3	012120-00062	DIAPHRAGM ASSEMBLY, METERING	1
4	012120-00063	DIAPHRAGM, PUMP	1
5	012120-00064	BODY ASSEMBLY, PUMP	1
6	012120-00065	BODY ASSEMBLY, AIR PURGE	1
7	012120-00066	SCREEN, INLET	1
8	012120-00067	VALVE, INLET NEEDLE	1
9	012120-00068	SPRING, METERING LEVER	1
10	012120-00069	SCREW, METERING LEVER PIN	1
11	012120-00070	PIN, METERING LEVER	1
12	012120-00071	LEVER, METERING	1
13	012120-00072	RING, RETAINING	1
14	012120-00073	O-RING	1
15	012120-00074	COVER, PRIMER PUMP	1
16	012120-00075	SWIVEL	1
17	012120-00076	SCREW, THROTTLE COLLAR	2
18	012120-00077	SCREW, PUMP COVER	
19	012120-00078	SPRING, PUMP	
20	012120-00079	WASHER	1
21	012120-00080	PUMP, PRIMER	1
22	012120-00081	FILTER, FUEL INLET	1
23	012120-00082	CARBURETOR ASSEMBLY (WYB 16C)	1
24	012120-00083	PACKING, CARBURETOR	1
25	012120-00084	SHROUD	1
26	012120-00085	BOLT, 5 X 53	2
27	012120-00051	BOLT, SOCKET, 5 X 16	2
28	012120-00087	O-RING, 14.8 X 2.4	
29	012120-00088	O-RING, 12.3 X 2.4	
30	012120-00089 012120-00090 012120-00091	JET (#36 OPTIONAL) JET (#37) JET (#35 OPTIONAL)	(1) 1 (1)

### E-15 Air Cleaner



FIG#	PART#	DESCRIPTION	QTY
1	012120-00092	ELEMENT, AIR CLEANER	1
2	012120-00093	CASE COMP., AIR CLEANER	1
3	012120-00094	COVER, AIR CLEANER	1
4	012120-00095	BOLT, SOCKET, 5 X 25	1
5	012120-00051	BOLT, SOCKET, 5 X 16	1
6	012120-00097	NUT, FLANGE, 5mm	2
7	012120-00132	COLLAR, AIR CLEANER	1
8	012120-00133	COLLAR, AIR CLEANER	2
9	012120-00134	COLLAR A, HEAD COVER	1

### E-16 Muffler



FIG#	PART#	DESCRIPTION			
1	012120-00098	MUFFLER COMP. (ARRESTER)	1		
2	012120-00099	ARRESTER COMP., SPARK	1		
3	012120-00100	FILTER, EXHAUST	1		
4	012120-00101	GUIDE, AIR	1		
5	012120-00102	GUIDE COMP., UNDER AIR	1		
6	012120-00103	BOLT, STUD, 5 X 56.5	2		
7	012120-00051	BOLT, SOCKET, 5 X 16	2		
8	012120-00105	SCREW, TAPPING, 4 X 6	3		
9	012120-00106	NUT, SELF-LOCK, 5mm			
10	012120-00135	COLLAR A, HEAD COVER			

### E-17 Fuel Tank

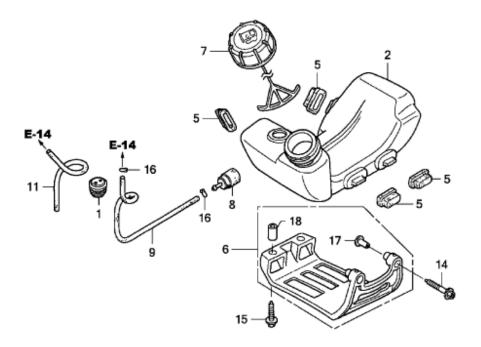
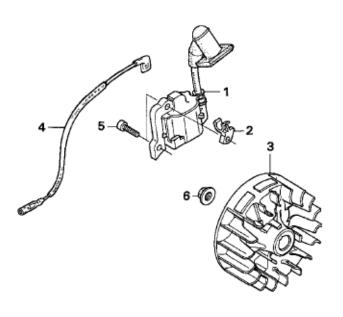




FIG # PART #		DESCRIPTION			
1	012120-00107	GROMMET, FUEL TUBE	1		
2	012120-00108	TANK, FUEL	1		
5	012120-00109	RUBBER, TANK MOUNTING	4		
7	012120-00110	CAP ASSEMBLY, FUEL TANK	1		
8	012120-00111	FILTER, FUEL			
9	012120-00112	TUBE, FUEL TANK	1		
11	012120-00113	TUBE, FUEL RETURN	1		
16	012120-00114	CLIP TURE			

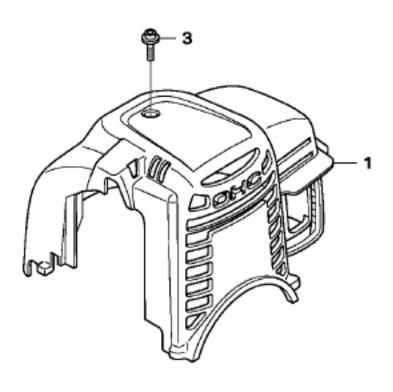
### E-19 Flywheel





FIG#	PART#	DESCRIPTION			
1	012120-00115	COIL ASSEMBLY, IGNITION	1		
2	012120-00116	CLIP, HIGH TENSION CORD			
3	012120-00117	FLYWHEEL COMP.			
4	012120-00118	CORD, STOP SWITCH			
5	012120-00119	BOLT, SOCKET, 4 X 14 (UP TO SERIAL # 1002284)	2		
5	012120-0119A	BOLT, SOCKET, 4 X 14 (FROM SERIAL # 1002285 & UP)	2		
6	012120-00120	NUT, FLANGE, 8mm			

### E-27 Top Cover

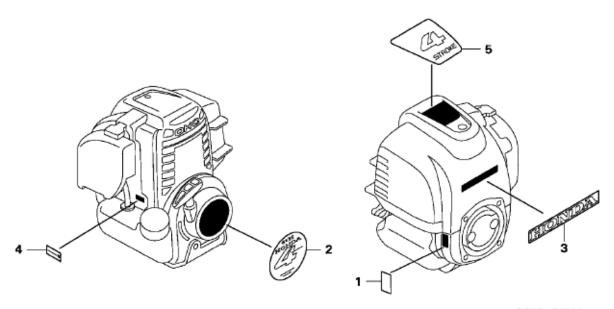




FIG#	PART#	DESCRIPTION	QTY
1	012120-00121	COVER COMP., TOP R280	1
3	012120-00122	BOLT TOP COVER	1

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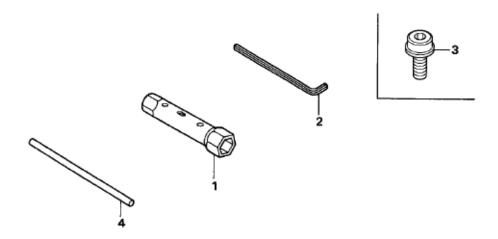
### E-28 Label



Z6K0-E2800

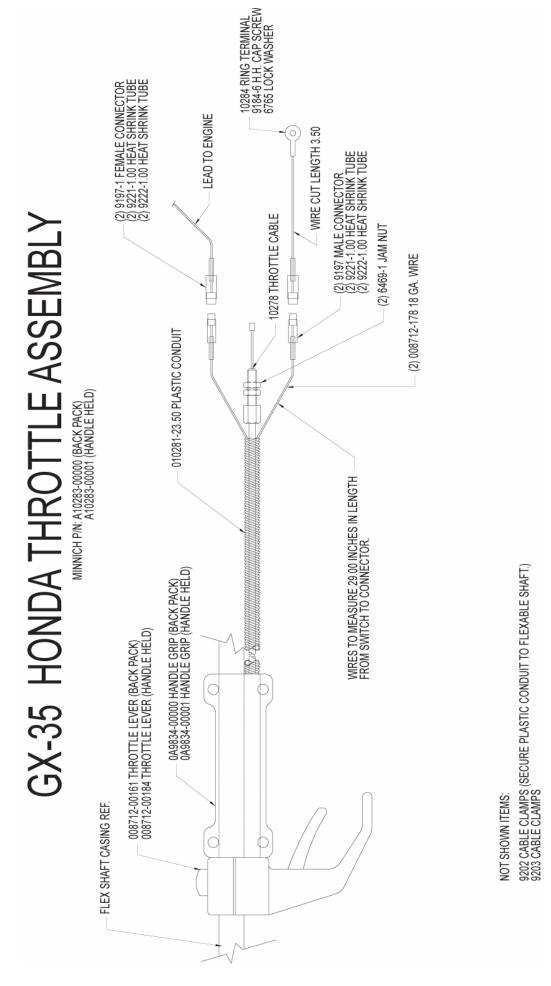
FIG #	PART#	DESCRIPTION	QTY
1	012120-00123	LABEL, WARNING (NOT CERTIFIED FOR SALE)	1
2	012120-00124	MARK, EMBLEM	1
3	012120-00125	MARK, HONDA	1
4	012120-00126	MARK, TYPE (S3)	1
5	012120-00127	MARK, (4-STROKE)	1

### E-29 Tool

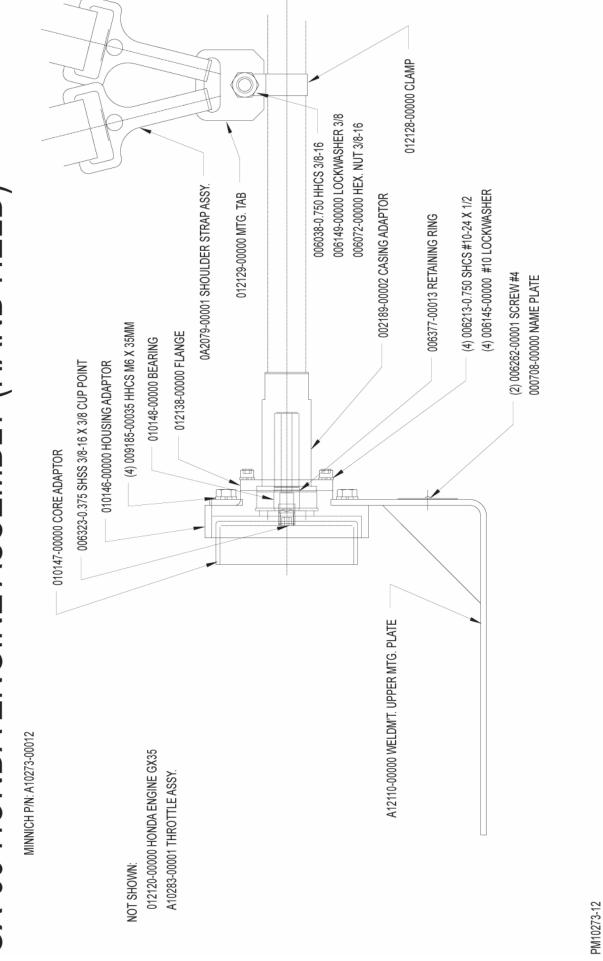


Z6K0-E2900

FIG #	PART#	DESCRIPTION	QTY
1	012120-00128	WRENCH, SPARK PLUG	1
2	012120-00129	WRENCH, HEX, 4mm	1
3	012120-00130	BOLT, SOCKET, 5 X 9	1
4	012120-00131	BAR A, HANDLE	1

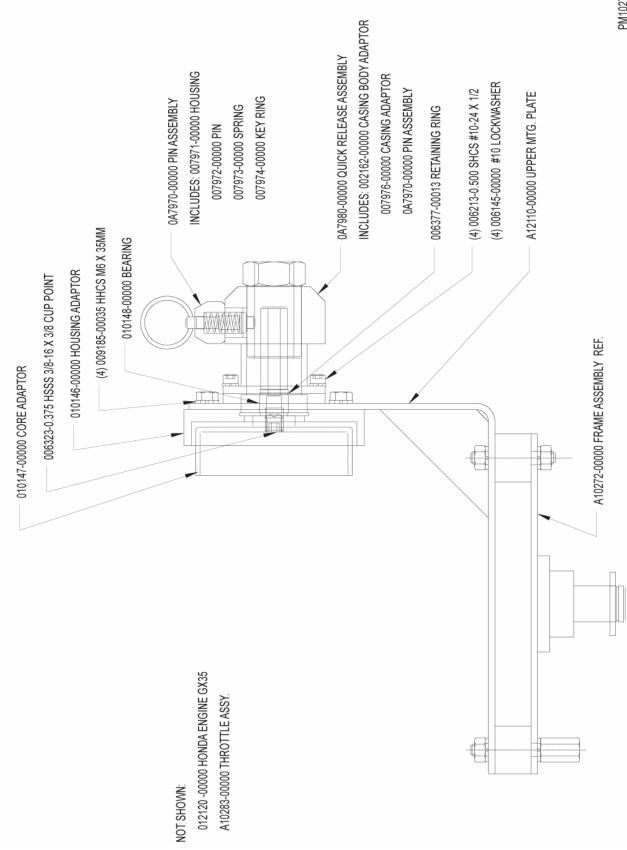


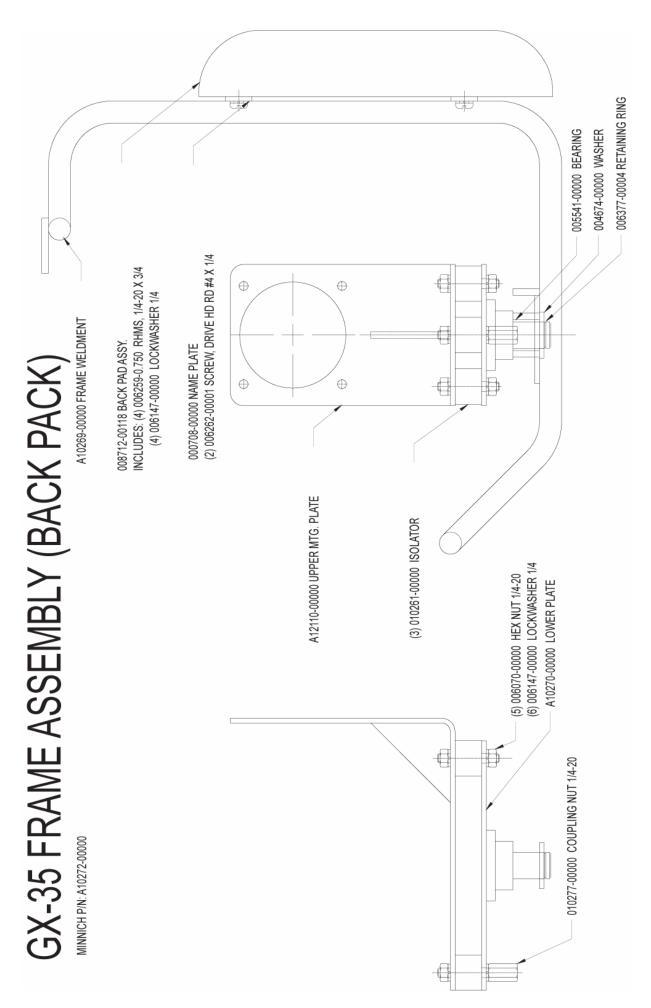
# GX-35 HONDA ENGINE ASSEMBLY (HAND HELD)



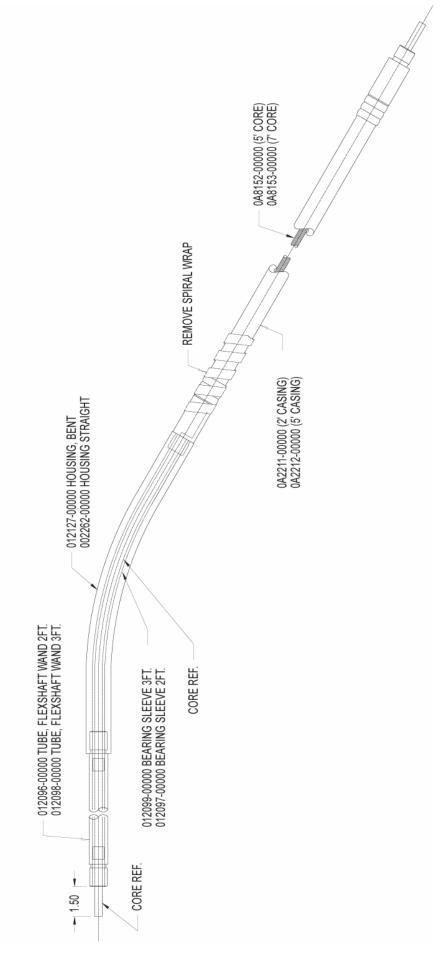
# GX-35 HONDA ENGINE ASSEMBLY (BACK PACK)



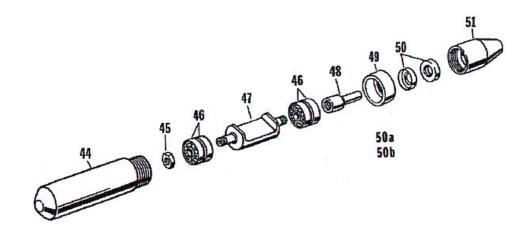




# SHAFT ASSY.



### VIBRATOR HEADS AND SHAFTS MAINTENANCE



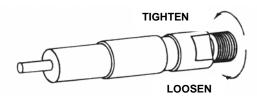
				HEADS			
	A2231	A2232	A2233	A2234	A2235	A2236	
Fig. No.	3/4" Dia	1" Dia	1 3/8" Dia	1 3/4" Dia	2" Dia	2 3/8" Dia	Complete Head Assy.
44	0A2158-00000	0A2026-00000	0A2046-00000	0A2018-00000	0A2146-00000	00A745-00000	Housing
45	006362-00000	002023-00000	002023-00000	001244-00000	000651-00000	000651-00000	Lock nut, Bearing
46	002156-00000	002038-00001	002039-00000	002040-00000	002041-00000	002041-00000	Bearing (4)
47	002153-00000	002025-00000	002032-00000	001241-00000	002142-00000	006542-00000	Weight, Eccentric
48	0A2679-00000	002676-00000	002021-00000	002024-00000	002028-00000	002028-00000	Core Adapter
49						000655-00001	Housing Bearing
50			020451-00000	020221-00000	020221-00000	020221-00000	Seal (2)
50a	002681-00000	002681-00000					Seal (Oil)
50b	002677-00000	002677-00000					Seal (Grease)
51	002192-00000	002193-00000	002194-00000	002195-00000	002196-00000	002197-00000	Casing Adapter

### **ASSEMBLY**

**CAUTION:** Turn off the motor before performing any maintenance or fitting any components to the motor.

### **ASSEMBLING SHAFT TO MOTOR**

- 1. The end of casing with the strain relief spring goes into the motor casing adapter.
- 2. Insert inner core of the shaft into the core adapter on motor. Make sure the core is fully inserted.
- 3. Coat threads on casing coupler with Permatex Form-A-Gasket #1.
- 4. Thread casing coupler counterclockwise into adapter on power unit and tighten securely using open end wrenches on the flats. **NOTE:** These are Left-Hand Threads.



### **ASSEMBLING VIBRATOR HEAD TO SHAFT.**

- 1. Coat threads on casing coupler with Permatex Form-A-Gasket #1.
- 2. Push core toward motor end to make certain it is still engaged in the motor. Insert exposed end of core into head core adapter.
- 3. Holding casing coupler with an open end wrench on the flats, thread the head on counterclockwise and securely tighten with a pipe wrench.

**CAUTION:** Put pipe wrench only on the very end of the head to which the flexible shaft is being attached.

LUBRICATION – After every 50 hours of operation, remove the inner core and wipe it clean. Coat core with a 1/16" layer of MINNICH #002120-00000 high temperature grease.

**CAUTION: DO NOT** use solvents. Solvents trapped in the core or casing will breakdown the new grease and risk premature failure.

Reverse the core in the casing at every lubrication to even the wear and extend service life.

Replace worn or broken casing to prevent damage to core and head.

To insure long life of flexible shafts, avoid putting undue bends in them. Whenever a casing becomes kinked, or worn to extreme, replace with original equipment.

Never install a new core in a kinked casing or a kinked core in a new casing. This will cause the new parts to fail prematurely.

Core and casing assemblies are shipped from the factory pre-lubricated. However, separate cores and casings are shipped without lubrication and must be lubricated with MINNICH #002120-00000 high temperature grease at assembly as noted above.

Always apply Permatex Form-A-Gasket #1 to the threads of the casing adapter when reassembling the core and casing assembly to the vibrator head and motor.

Break in a newly lubricated core and casing assembly before putting it to work. During this break-in the core will turn slower than normal, could rattle a little bit and draw the motor speed down, causing the motor to draw more current. After this break-in period, the unit will run smoothly.

### **VIBRATOR HEADS**

The vibrator heads require very little maintenance since they are lubricated with oil and sealed at the factory. Wash concrete and dirt from heads after each job or at the end of a workday – whichever occurs first. To extend the bearing life in the head, change the oil in the head after every 100 hours of operation.

### TO CHANGE OIL IN HEADS:

- 1. Secure tip of vibrator head in vise and use a chain or pipe wrench on the casing adapter, rotating adapter counterclockwise for a right hand thread. Remove head from vise and drain out old oil in a container and dispose properly.
- 2. Insert open end of head into the appropriate size bump tube. With open end facing down, strike bottom end of bump tube on a block of wood until eccentric weight assembly drops out.
- 3. Flush eccentric weight assembly and housing with clean solvent and wipe all parts clean.
- 4. Inspect bearings, core adapter and seals for signs of wear. If parts pass inspection, reassemble eccentric weight assembly into the housing. Clamp head vertically in a vise and refill with proper amount of MINNICH #002119-00000 long life oil (see chart below).

**NOTE:** If there are signs of wear (grooving) from the seals on the core adapter, worn seals or looseness in the bearings see the service portion of the manual for further instructions.

5. Put oil on core adapter for ease of assembly of casing adapter containing the two (2) seals. Start thread of adapter into housing for a turn or two. Stop and apply a generous coating of Permatex Form-A-Gasket #1 all around the threads on the casing adapter.

**NOTE:** It is very important that the casing adapter fits tightly against the housing. In order to guarantee a waterproof seal, allow 15 minutes for sealant to set up.

Grease - Flexible Shaft------- Part No. 002120-00000 Oil - Lubricating ------ Part No. 002119-00000

Lubricating Oil Capacities				
Head Dia.	Oil Capacity			
3/4"	1/4 oz.			
1"	1/2 oz.			
1 3/8"	1/2 oz.			
1 3/4"	3/4 oz.			
2"	1 oz.			
2 3/8"	1 oz.			