

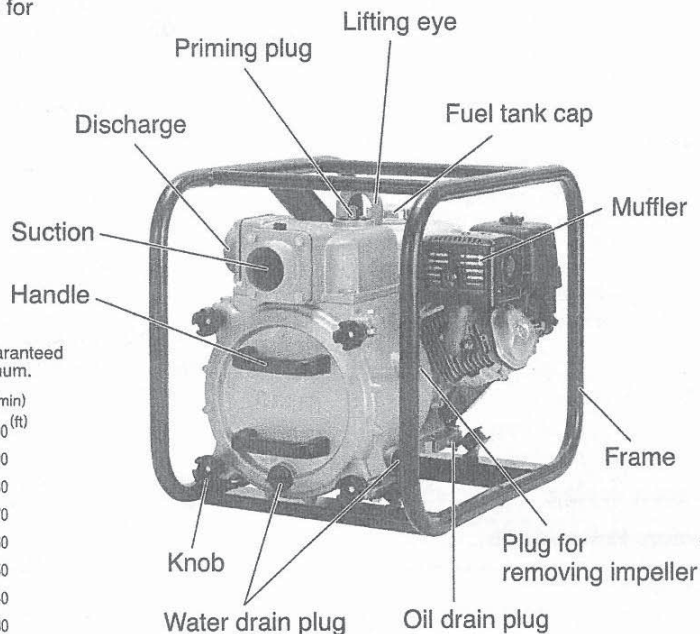
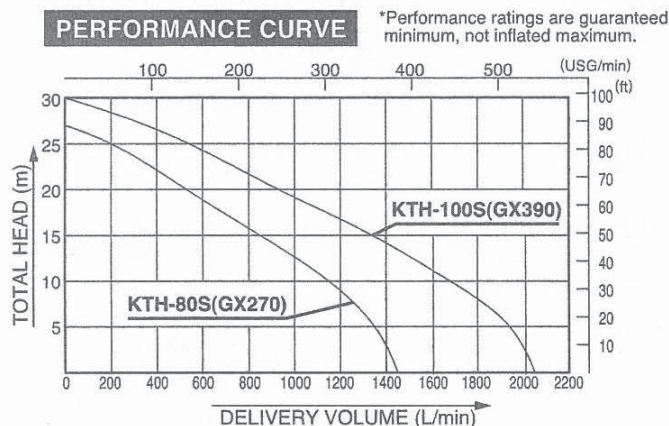
KTH-S SERIES Operating Instructions & Parts Manual

Please read and save these instructions and Engine owner's manual. Read carefully before attempting to assemble, install, operate or maintain the product described.
Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and or property damage! Retain instructions for future reference.

TRASH PUMP Heavy Duty

Description

Trash Pumps provide superior performance in dirty water applications. All Trash Pumps have silicon carbide mechanical seals, high chrome cast impellers, and spheroid graphite ductile iron for longer durability. Honda Engines standard with oil alert are coupled with a lightweight aluminum die cast pump protected by a roll cage. Volutes are a spheroid cast graphite iron with high chrome impellers with silicon carbide mechanical seals for longer life and less maintenance. Self-priming up to 26 feet. Applications are for dewatering construction, industrial and civil sites where the water contains larger solids of up to 1 1/16 inches. In addition horizontally-fixing, front cover handle can fix lengthwise direction.



SPECIFICATIONS

Model		KTH-80S	KTH-100S
PUMP	Connection Dia	3" (80 mm)	4" (100 mm)
	Connection Thread	Parallel Pipe Thread or NPT	
	Total Head	27 m (89 ft)	30 m (98 ft)
	Discharge Volume	1450 L/min (383 USG/min)	2050 L/min (542 USG/min)
	Max. Suction Lift	8 m (26 ft)	
ENGINE	Type	Air Cooled 4 stroke OHV Gasoline Engine	
	Model	Honda GX270	Honda GX390
	Displacement	270 cm ³	389 cm ³
	Fuel	Automotive Unleaded Gasoline	
	Engine Oil	SAE 10W-30 API SJ or later, for general use.	
	Fuel Tank Capacity	5.3 L (1.4 USG)	6.1 L (1.6 USG)
	Starting System	Recoil starter	
Standard Accessory		None or 1 Strainer, 2 Hose Couplings, 3 Hose Bands, 1 Engine Tool Set	
Net Weight		66 kg (146 lbs)	82 kg (181 lbs)
Guaranteed Sound Power		LWA 105 dB	LWA 106 dB

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TRASH PUMP

This manual is prepared for your safety when operating pump. Please read carefully and comprehend fully before use. (Improper usage could cause injury or death.) Please keep this manual handy for future reference.

Unpacking

Upon receiving the pump it should be inspected for any damage and/or missing parts. If there is any damage, file a claim with the carrier who delivered the pump. Ensure the Pump Model is correct and keep all operating manuals with the pump for reference.

CAUTION

Do not operate unit if there is any damage due to shipping, handling, or use. Damage may cause injury or property damage.

Safety Precautions

Read these "Safety Precautions" before operation. This manual contains information that is very important to know and understand. This information is provided for the SAFETY and to PREVENT EQUIPMENT PROBLEMS.

To help recognize this information, observe the following symbols:

DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury, or property damage.

DANGER



Avoid open flames or spark when refueling or maintaining the pump or engine.

Gasoline and vapors are highly flammable!



Do not operate Engine pump inside a room or confined area without proper ventilation.



Exhaust gases are dangerous. There is danger of gas poisoning.



Do not use pump on slope. Fuel leakage at fuel tank or carburetor may cause fire.



Keep area around the engine muffler free of debris—muffler can be very hot. It may cause fire or breakage.



Read carefully and understand fully before use.



Keep children away from pump when in operation.



Do not overhaul, service or repair, except by a qualified person who is trained to do so.

WARNING



This pump is designed to pump water. Not to be used for drinking water, chemicals, or flammable liquids.



Water temperature range is 41°F/113°F (5°C/45°C). Damage may result if not followed.



Do not run pump dry. This will cause premature wear and/or failure.



Please use proper suction hose and connectors at suction side of pump.

CAUTION

Do not operate the pump without proper training. Know how to stop the pump quickly and understand the operation of all of the controls. Attach discharge hose before operating pump. Do not restrict or obstruct discharge hose.

Trash Pumps are designed to pump water with up to 25% suspended solid solution. If the suspended solid percentage is higher, premature wear and failure will occur.*

To properly pump water with any debris, any solids must be in a suspension.

** Suspended solids are defined as debris "floating" within the water. The size of the suspended solid that can be pumped is determined by the size of the pump. Refer to the chart below for maximum suspended size.*

Pump failure will occur if the suction strainer is not properly fitted. The strainer keeps the size of the suspended solids entering the pump to the predetermined size the pump has been designed to handle. The strainer should be installed in the position where water accumulates most easily. When installing on weak ground, such as gravel or sand, position wooden boards or blocks, etc. below the strainer to prevent it from sinking into the ground.

Personal Safety

Wear eye protection at all times when operating or maintaining pumps. Keep area of operation clean, uncluttered and properly lighted; replace all unused tools and equipment. Must keep visitors at a safe distance from the area of operation.

TRASH PUMP *Heavy Duty*

Gasoline and its vapors are highly flammable.

- Use gasoline only.
- Only use an approved container to store gasoline.
- Keep gasoline away from heat, spark, or open flame.
- When working with gasoline, a fire extinguisher must be provided.
- When handling flammable liquid, adequate ventilation must be provided.
- Smoking is prohibited, when operating or fueling.

CAUTION

Make sure discharge hose is secure before operating the pump. A loose discharge hose may slip causing damage or personal injury. Do not overtighten threaded fittings. Check hoses and all connections before operation. Inspect pump and associated accessories before each use. Drain pump of water before servicing. Incorrect or improper usage could cause injury or death. Please keep this manual handy for future reference.

BEFORE USE

1. Make sure all accessories are provided.

List of accessories provided are printed on the pump manual.

2. 4-stroke engine needs "engine oil"

Refer to Figure 2 to check oil level
Fill engine oil as shown in illustration, at the bottom of engine.
Change oil every 8 hours for the first 20 hours and every 50 hours thereafter.
Applied oil: SAE#30 (spring-summer)
SAE#20 (autumn-winter)
SAE10W-30 (cold district, below-10°C)
Always check level of engine oil before each use. Use only Regular Unleaded Gasoline.

CAUTION

Low or no oil will prematurely damage engine. Warranty will not cover low oil situations.

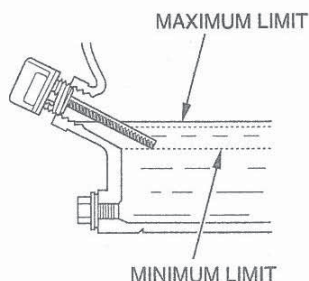
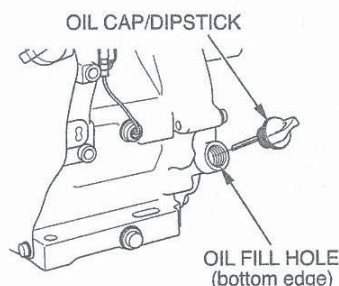


FIGURE 2

3. Please install coupling in order of: ① → ② → ③

Refer to Figure 3 while installing the coupling

If this coupling assembly is not installed correctly in accordance with Figure 3, it will leak and pump will fail to prime.

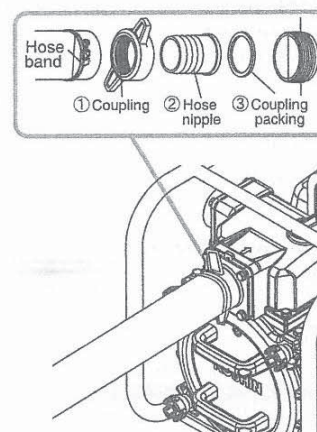


FIGURE 3

TRASH PUMP

4. Do not use a smaller diameter suction hose.

Using a smaller diameter hose will cause the pump to cavitate. Cavitation will result in pump failure.

5. Make sure suction hose is connected properly.

To avoid air leaks and slow priming, ensure the suction hose is connected properly.

CAUTION

If this step is not followed, the pump will fail to prime.

6. Ensure pump is fully filled with water

CAUTION

Dry running may cause serious damage or failure of the mechanical seal.

HOW TO USE

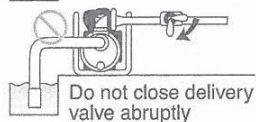
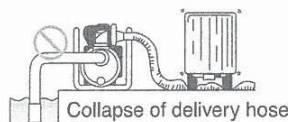
1. Ensure the pump casing is completely filled (primed) with liquid prior to start-up. Failure to properly prime the pump will result in pump damage.
2. Ensure strainer at the end of suction hose is fully submerged in water. If any mud or sand is at the bottom of water, suspend hose avoiding any debris.
3. Do not block, kink, or obstruct the flow of liquid through the discharge hose.

WARNING

- 1) Do not dead head or restrict water flow either at suction or discharge side of the pump. This may cause high air pressure and / or high temperature conditions within the pump. Extreme heat or pressure may exist.
- 2) When priming the pump, only use water. If long priming times - 5 min or more, turn off engine and allow pump to cool off.
- 3) Do not open plugs or hoses if heat or pressure exists within the pump.

CAUTION

Beware of water hammering
Do not allow any vehicle to run over the delivery hose. Do not close the delivery valve abruptly because water-hammer may occur. This may result in excessive damage to the pump.



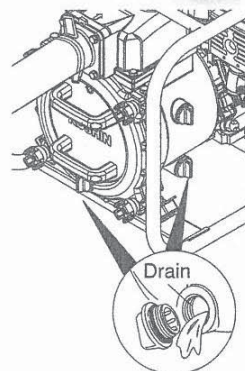
For engine instructions and notes, please refer to the Engine Operation Manual enclosed.

AFTER USE

After use, remove the drain plug at the bottom and pour water from the suction/discharge ports so that the remaining sand is forced out of the pump. If the pump is used to transfer muddy water over a long period of time, a large volume of sand will pile up in the pump casing, making it difficult to remove the front cover. Therefore, clean the inside of the pump periodically.

CAUTION

Water left in the pump may freeze in winter and damage pump. After use and before storage drain water by removing drain plug.



For long storage

Completely drain all fuel from the fuel tank and carburetor. Unused fuel in tank (if kept more than 30 days) may result in engine failure. *Please refer to the Engine Operation Manual.

CAUTION

Do not smoke or expose to open flame or spark as fuel is highly flammable. Unused fuel must not remain in the tank for long-term storage. Unused, older fuel may cause future engine failure.

TRASH PUMP *Heavy Duty*

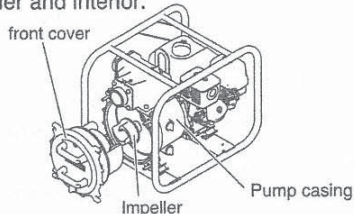
Troubleshooting

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Cannot pull or hard to pull recoil starter	1. Old fuel 2. Rusting inside engine 3. Burn out of engine 4. Blocked impeller 5. Debris at impeller	1. Replace fuel. If there is no improvement, repair engine 2. Refer to Engine Operation Manual. (Repair) 3. Refer to Engine Operation Manual. (Repair) 4. Dismantle & clean the impeller 5. Dismantle & clean the impeller ⇒ SOLUTION ①
Low delivery volume	1. Air leakage from suction side 2. Output power down from engine 3. Damage of mechanical seal 4. Suction lift is high 5. Suction pipe is too long or too small in diameter 6. Water leaking from delivery hose or pipe 7. Debris at impeller 8. Worn or broken impeller	1. Check hose at suction side ⇒ SOLUTION ② 2. Check and repair engine 3. Replace mechanical seal (Repair) 4. Decrease suction lift 5. Shorten suction pipe or enlarge repair to proper diameter 6. Check and stop leakage of water 7. Dismantle & clean the impeller ⇒ SOLUTION ① 8. Replace the impeller (Repair)
Pump does not prime water	1. Air leaking in from suction side 2. Insufficient priming water Inside pump casing 3. Drain plug is not tightened 4. Engine speed/rpm is too low 5. Damage of mechanical seal 6. Wrong suction hose used	1. Check hose and connections at suction side ⇒ SOLUTION ② 2. Fill pump with water for priming Refer to BEFORE USE - "5 Fill pump with water before use" 3. Tighten drain plug firmly. Please refer to "ATTENTION AFTER USE" 4. Refer to Engine Operation Manual 5. Replace mechanical seal (Repair) 6. Use correct suction hose
Engine does not start	1. Carburetor is choked/blocked 2. Spark Plug is wet 3. Air cleaner dirty 4. Too much engine oil (4-cycle engine) 5. Insufficient engine oil (4-stroke engine) 6. After checking above points, still engine does not start	1. Repair ⇒ SOLUTION ③ 2. Check & repair the plug 3. Clean air cleaner. (Refer to Engine Operation Manual) 4. Adjust engine oil to suitable level 5. Function of oil alert (oil sensor) is working. (This function protects engine. If volume of engine oil is not a suitable level, engine does not start) 6. Possibility of damage, inner parts of engine (Repair)
Oil leakage from muffler or air cleaner	1. Tipping of engine	1. Clean engine (Air Cleaner, Carburetor, Muffler, Spark plug, etc.)

TRASH PUMP

SOLUTION①

Remove front cover and clean debris from impeller and interior.



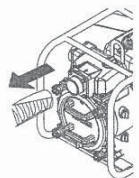
SOLUTION②

Check suction hose. In case of no suction or small delivery, the cause is usually due to air leakage at suction side. In such case:

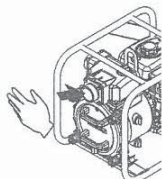
1. Remove suction hose.

2. Start engine with water inside the pump.

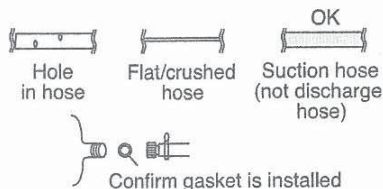
3. Press the palm of your hand to cover the suction hole and wait 30 seconds. If you feel suction on your palm, the pump is working fine but hose connection needs correction.



Test for suction



4. Please check if rubber/gasket packing is installed and there is any hole in suction hose.



Confirm gasket is installed

SOLUTION③

Confirm the spark plug is clean and free of debris. Otherwise use clean cloth to remove stains and dirt.

Confirm gap between spark plug. Plug gap should be 0.6-0.7 mm or 0.024-0.028 in. Adjust gap to be within this range.

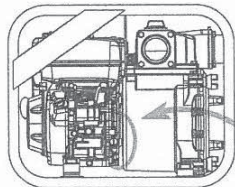


New spark plug may be required if engine still will not start after you clean plug and adjust gap of plug.

CAUTION

There are many different types of spark plugs. Please check and select correct plugs according to Engine Operation Manual.

NOTE: A leak between the pump casing and the engine is usually due to a damaged mechanical seal. Refer to a local service center.



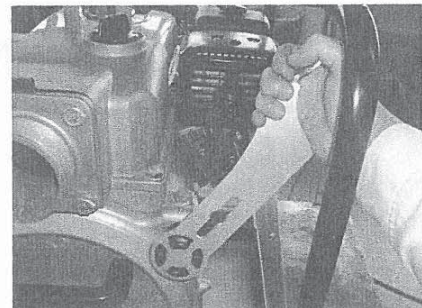
CAUTION

For assistance with checking and repair, please ask your nearest sales store for after sales service.

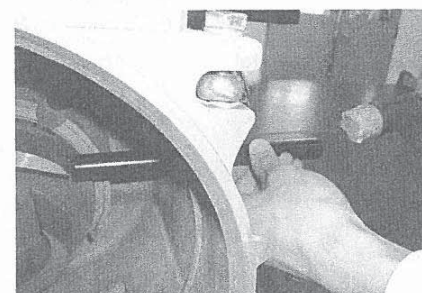
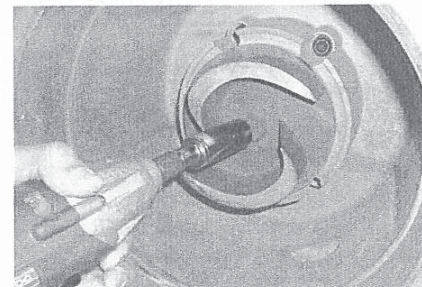
MAINTENANCE

Mechanical seal replacement

1. Remove knobs by turning counterclock-wise. Pull handle towards you to remove both front cover and volute casing.



2. Remove impeller plug. Place a stick thru hole against impeller, hammer on stick to loosen impeller. Unscrew hexagon head in center of impeller.



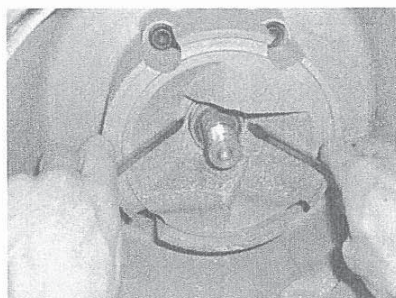
3. Remove mechanical seal from impeller.



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TRASH PUMP *Heavy Duty*

4. Remove mechanical seal from the pump casing using two flat head screwdrivers.

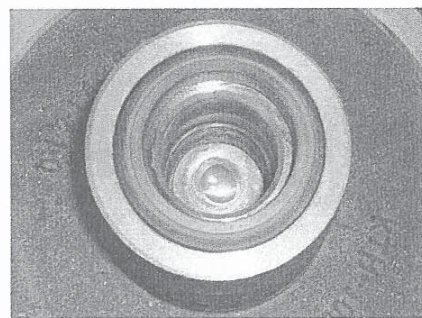


5. Set new mechanical seal into the pump casing keeping the face of the seal clean. Install the mechanical seal into the impeller with adjusting washers.

CAUTION

Keep the face of the seal clean.

6. Install the mechanical seal over engine shaft keeping the seal faces clean.
7. Replace the impeller adjusting washers, the same quantity as removed.



CAUTION

Be sure seal is set fully and correctly.

8. Install the impeller, and then tighten in a clockwise direction by hand.

9. Tighten the impeller by hitting with a soft hammer in a clockwise direction. The impeller should be tighten enough so that it cannot be loosened by hand.

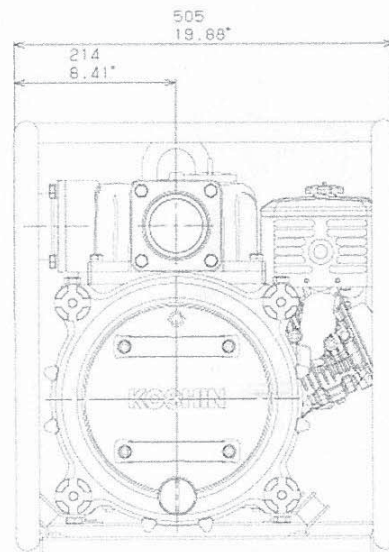
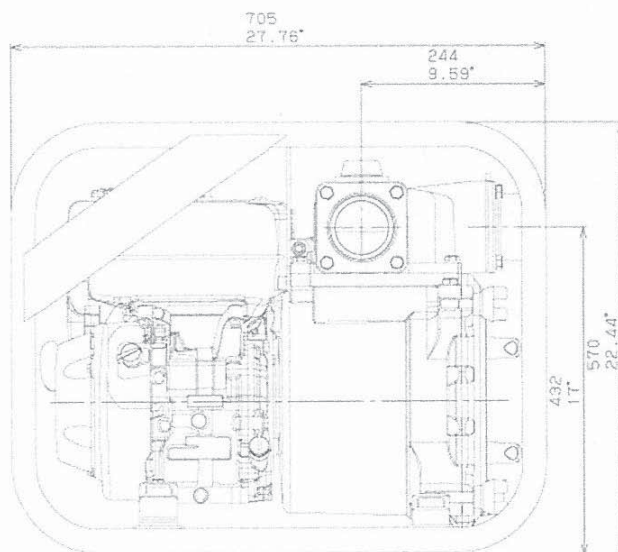
10. Install the front cover (with volute casing) in the correct position on the pump casing with O-Ring correctly placed.

11. Correctly install the front cover and evenly tighten the right and left knobs.

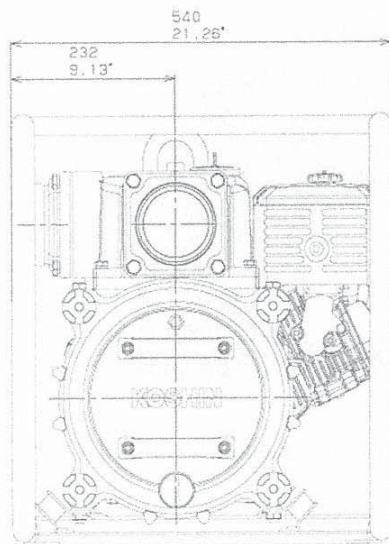
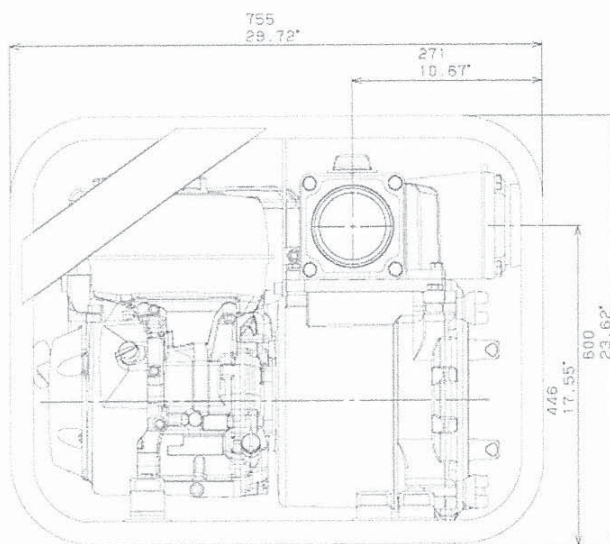
CAUTION

Ensure all Packings/Gaskets are installed.

TRASH PUMP

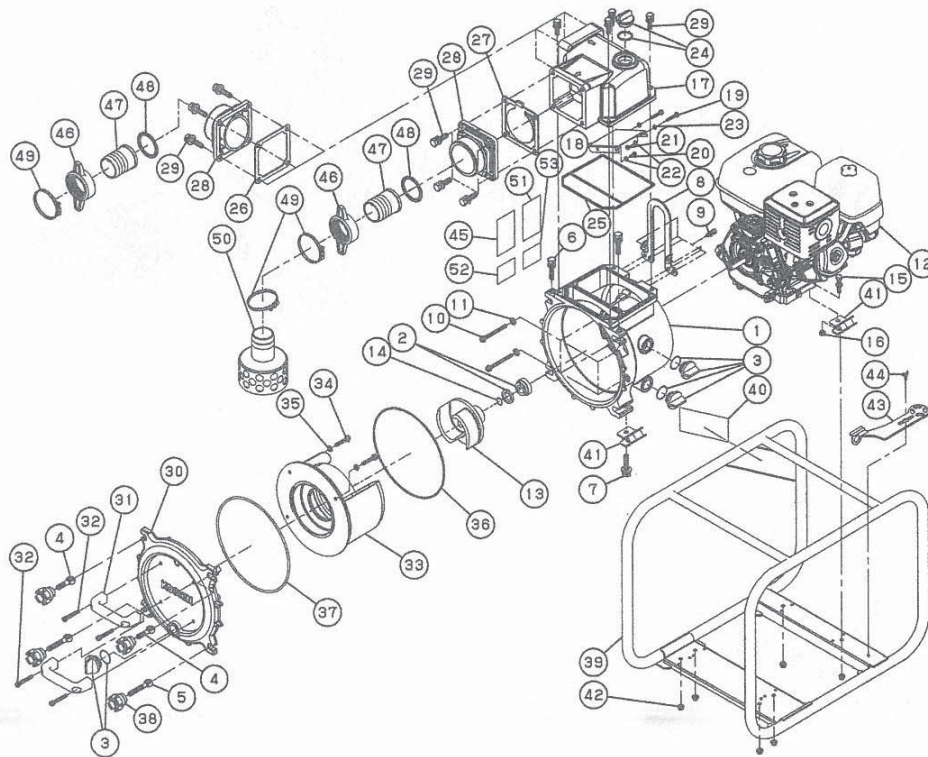


KTH-80S



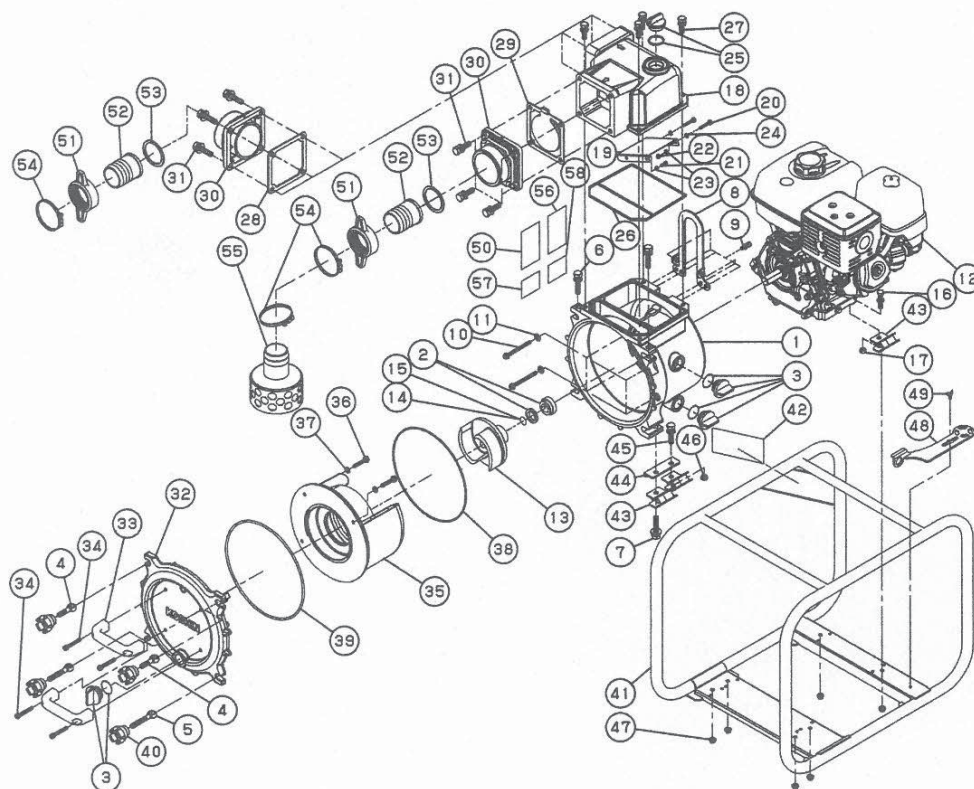
KTH-100S

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**KTH-80S**

No.	PARTS CODE	PARTS NAME	QTY	OTHER
1	0121439	Pump case	1	
2	0115678	Mechanical seal	1	
3	0118079	Plug 25A SET	3	
4	0121843	Cover bolt-S	2	
5	0121844	Cover bolt-L	2	
6	743119083	Hexagon head screw with captive spring washer M12x45	2	
7	743119084	Hexagon head screw with captive spring washer M12x50	2	
8	0121454	Hookplate	1	
9	734614090	Hexagon socket head cap screw with spring washer M10x25	6	
10	0121925	Hexagon socket head cap screw with flange M10x1.25x50	4	
11	0121915	Aluminum washer φ10	4	
12	N/A	GX270UT2 engine	1	
13	0121438	Impeller	1	
14	0110081	Impeller adjustment washer T0.3	3	
15	743119067	Hexagon head screw with captive spring washer M10x40	2	
16	827419010	Hexagon nut M10	2	
17	0121437	Separate head	1	
18	0121457	Baffle	1	
19	734705047	Hexagon socket head cap screw with flange M6x16	2	
20	734505276	Hexagon socket head cap screw M6x8	2	
21	827405006	Hexagon nut M6	2	
22	846205006	Washer φ6	4	
23	0121914	Aluminum washer φ6	2	
24	0118450	Plug 32A SET	1	
25	0121450	Head packing	1	
26	0110584	Flange packing	1	
27	0121574	Check valve	1	
28	0115837	Discharge flange NPT3	2	BAA
	0115838	Discharge flange G3	2	BAB
29	743119063	Hexagon head screw with captive spring washer M12x35	12	
30	0121440	Front cover	1	

No.	PARTS CODE	PARTS NAME	QTY	OTHER
31	0121453	Handle	2	
32	734520070	Hexagon socket head cap screw M8x35	4	
33	0121441	Volute case	1	
34	734705066	Hexagon socket head cap screw with flange M8x25	3	
35	0116493	Aluminum washer φ8	3	
36	0121917	O-ring G283x3.55	1	
37	0121916	O-ring G295x5.3	1	
38	0121449	Knob	4	
39	0128438	Base ASSY	1	
40	0121435	Label, Side panel	1	
41	0116172	Rubber cushion	4	
42	842319008	Hexagon nut with spring lock washer M8	4	
43	0121918	Multi tool	1	
44	741305153	Wing bolt M8x15	1	
45	0121927	Name plate KTH-80S-BAA	1	BAA
	0121445	Name plate KTH-80S-BAB	1	BAB
46	0110300	Coupling G3	2	BAB only
47	0111931	Nipple	2	BAB only
48	0110100	Coupling packing	2	BAB only
49	940407090	Hose band	3	BAB only
50	0110978	Strainer nipple	1	BAB only
51	0114713	Label, CAUTION	1	BAB only
52	0114718	Label, CE mark	1	BAB only
53	0116283	Label, EU noise 105	1	BAB only
	0114820	EC Declaration of conformity	1	BAB only

**KTH-100S**

No.	PARTS CODE	PARTS NAME	QTY	OTHER
1	0121442	Pump case	1	
2	0115678	Mechanical seal	1	
3	0118079	Plug 25A SET	3	
4	0121843	Cover bolt-S	2	
5	0121844	Cover bolt-L	2	
6	743119083	Hexagon head screw with captive spring washer M12x45	2	
7	743119085	Hexagon head screw with captive spring washer M12x55	2	
8	0121455	Hookplate	1	
9	734614090	Hexagon socket head cap screw with spring washer M10x25	6	
10	0121925	Hexagon socket head cap screw with flange M10x1.25x50	4	
11	0121915	Aluminum washer φ10	4	
12	N/A	GX390UT2 engine	1	
13	0121436	Impeller	1	
14	0110561	Impeller adjustment washer T0.3	3	
15	0116405	Impeller adjustment washer T0.1	3	
16	743119067	Hexagon head screw with captive spring washer M10x40	2	
17	827419010	Hexagon nut M10	2	
18	0121452	Separate head	1	
19	0121832	Baffle	1	
20	734705047	Hexagon socket head cap screw with flange M6x16	2	
21	734505276	Hexagon socket head cap screw M6x8	2	
22	827405006	Hexagon nut M6	2	
23	846205006	Washer φ6	4	
24	0121914	Aluminum washer φ6	2	
25	0118450	Plug 32A SET	1	
26	0121450	Head packing	1	
27	743119063	Hexagon head screw with captive spring washer M10x30	4	
28	0110750	Flange packing	1	
29	0121577	Check valve	1	
30	0111365	Suction flange NPT4	2	BAA
	0116188	Suction flange G4	2	BAB

No.	PARTS CODE	PARTS NAME	QTY	OTHER
31	743119080	Hexagon head screw with captive spring washer M12x35	8	
32	0121443	Front cover	1	
33	0121453	Handle	2	
34	734520070	Hexagon socket head cap screw M8x35	4	
35	0121444	Volute case	1	
36	734705066	Hexagon socket head cap screw with flange M8x25	3	
37	0116493	Aluminum washer φ8	3	
38	0121917	O-ring G283x3.55	1	
39	0121916	O-ring G295x5.3	1	
40	0121449	Knob	4	
41	0128440	Base ASSY	1	
42	0121435	Label, Side panel	1	
43	0116172	Rubber cushion	6	
44	0116273	Mount, rubber cushion	2	
45	743119076	Hexagon head screw with captive spring washer M12x25	2	
46	827419012	Hexagon nut M12	2	
47	842319008	Hexagon nut with spring lock washer M8	6	
48	0121919	Multi tool	1	
49	741305153	Wing bolt M8x15	1	
50	0121928	Name plate KTH-100S-BAA	1	BAA
	0121446	Name plate KTH-100S-BAB	1	BAB
51	0116189	Coupling G4	2	BAB only
52	0110471	Nipple	2	BAB only
53	0111478	Coupling packing	2	BAB only
54	940407120	Hose band	3	BAB only
55	0110979	Strainer nipple	1	BAB only
56	0114713	Label, CAUTION	1	BAB only
57	0114718	Label, CE mark	1	BAB only
58	0116412	Label, EU noise 106	1	BAB only
	0114820	EC Declaration of conformity	1	BAB only