KOSHINPUMP.COM

High Performance Self-Priming Engine Pump

TRASH PUMP

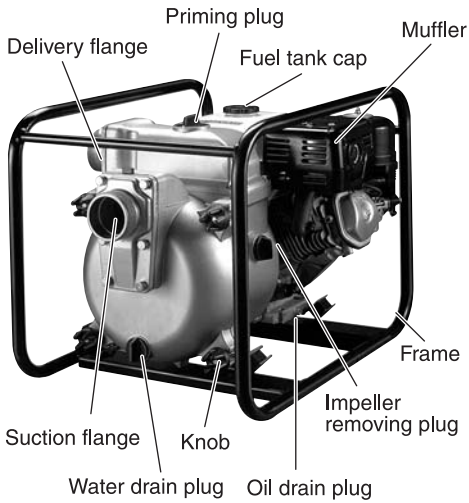
KTH SERIES : OPERATION MANUAL

- Thank you for choosing Koshin Trash Pump.
- This manual is prepared for your safety when operating pump. Please read carefully and comprehend fully before use. (Wrong usage could cause injury or death.)
- Please keep this manual handy for future reference.

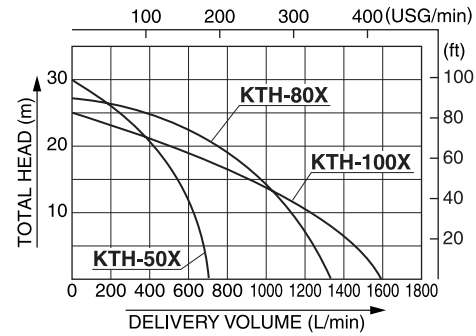
SPECIFICATIONS

Model			KTH-50X	KTH-80X	KTH-100X
PUMP	Connection Dia		50 mm (2")	80 mm (3")	100 mm (4")
	Connection Thread		BSP Thread or Fire Fighting Thread		
	Total Head		30 m (98 ft)	27m (89 ft)	25 m (82 ft)
	Delivery Volume		700 L/min (185 USG/min)	1340 L/min (354 USG/min)	1600 L/min (422 USG/min)
	Max. Suction Head		8 m (26 ft)		
ENGINE	Type		Forced Air Cooling 4 stroke Gasoline Engine		
	Model		Honda GX160	Honda GX240	Honda GX340
	Exhaust Volume		163 cc	242 cc	337 cc
	Output	Rated Power	2.9kW(3.9PS)/3600rpm	4.4kW(6.0PS)/3600rpm	5.8kW(7.9PS)/3600rpm
		Max. Power	3.6kW(4.9PS)/ 3600rpm	5.3kW(7.2PS)/3600rpm	7.1kW(9.7PS)/3600rpm
	Fuel		Automotive Unleaded Gasoline		
	Fuel Tank Capacity		3.1 L	5.3 L	6.1 L
	Starting Method		Recoil starter		
Standard Accessory			1 Strainer, 2 Hose Couplings, 3 Hose Bands, 1 Engine Tool Set		
Net Weight			47 kg	58 kg	78 kg

*Specifications may differ slightly depending on model.
**For the purpose of improvement, specifications are subject to changes without notice.



PERFORMANCE CURVE *Performance ratings are guaranteed minimum, not inflated maximum.



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SAFETY PRECAUTIONS

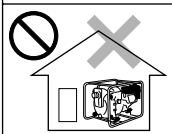
Read and understand this manual completely before operation.
Below information should not be neglected for proper use of this product.
Your understanding can prevent harm or danger to user or others.

Following information is very important for safety in handling this product. Be sure to observe them.	
⚠ 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 resultin minor or moderate injury, or property damage.
IMPORTANT	⃠ PROHIBITED ❗ ALERT

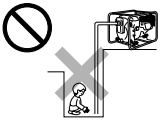
⚠ DANGER

Avoid fire when refuel or maintenance.
Highly inflammable!

Do not use pump on slope.
Fuel spillage at tank cap or carburetor may cause fire.

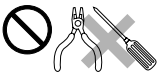


Do not operate Trash pump inside a room or under bad ventilation condition. Harmful substances are in exhaust gas. There is danger of gas poisoning.



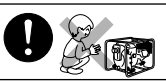
In case of operating Trash Pump in a well or in a hollow, the person operating the pump must **not enter the small space** as there is danger of gas poisoning.

Do not put any obstacle around engine muffler.
It may cause fire or breakage.

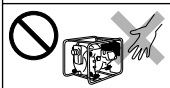


Do not overhaul or repair, except by person who is trained to do so.

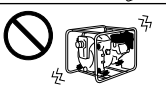
Read carefully and understand fully before use.



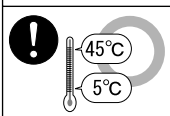
Keep children away from pump when in operation.



Do not touch muffler or any part of the engine. It could cause burn.

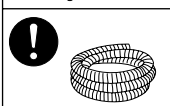


Do not run pump without water inside the pump.
This will cause pump damage.

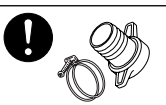


Use correct type of **suction hose. Water temperature tolerance: 5 to 45℃.** May cause breakage if use outside the mentioned range.

This pump is not Suitable:
drinking water, seawater, kerosene, light oil, heavy oil, gasoline, chemical, acid, alkaline etc.



Please use suction hose for suction side. Please purchase suitable hose to fit to connection dia and suitable length.



Please firmly connect hose with coupling and hose band when you connect suction or delivery hose to pump.

BEFORE USE

1 Check accessories provided

List of accessories provided are printed on the pump manual.

4-stroke engine

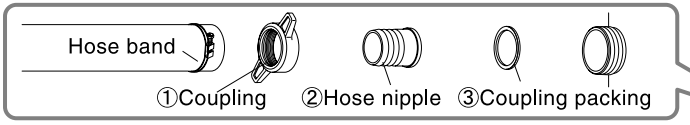
4-stroke engine needs ***"engine oil"*** There is ***no engine oil in the engine.***
Before starting engine, engine oil must be filled. If you start engine without engine oil, engine will burn out and it is difficult to repair. (Warranty does not cover such claim.)
Please use ***"Non-Lead Gasoline for Automobile"***.

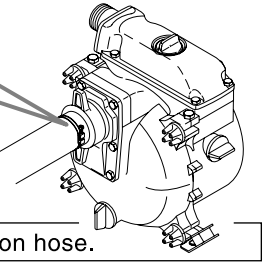
⚠ **WARNING**	Inflammable!! Avoid fire when refuel or maintenance.

⚠ **CAUTION**	Before starting engine, please check if engine oil is filled to required level. Without engine oil or shortage of engine oil can cause troubles for engine.
	Please read carefully Engine Operation Manual for engine oil instructions.
	Inflammable! Do not operate near open fire.
	Any fuel spillage must be cleaned completely.
	Check engine oil before operation. Check and refuel periodically. Please read Engine Operation Manual for instructions.
	Stop engine operation when refuel engine oil. Engine oil can be very hot after operation.

3 How to install Coupling

⚠ **CAUTION**	Different accessories are suitable for different models. Please check connection diameter and install correct parts.





Please install coupling in order of :①⇒②⇒③.
If you install coupling packing not inabove order, air leakage may result, affecting water suction efficiency.

⚠ **CAUTION**	Do not change pump diameter by altering suction hose.

4 Make sure suction hose is connected properly

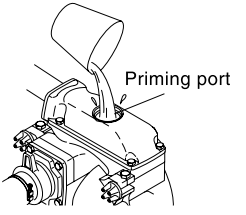
In case of no self-priming after filling pump with water and engine is started, check suction hose connection carefully again. Most cases of no self-priming are caused by improper hose connection.

⚠ **CAUTION**	Use suction hose for suction side. Use couplings/hose band as provided in accessory and attach hose properly. Installation of strainer at the end of suction hose is necessary.

5 Fill pump with water before use

As pump is self-priming type, fill water fully from priming port into pump before running.
Insufficient water can cause damage to pump.

⚠ **CAUTION**	Running without filling water can damage mechanical seal.



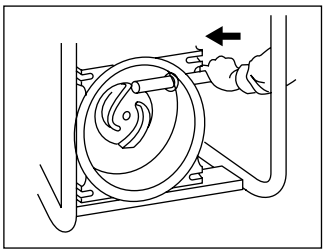
HOW TO USE

1 Ensure pump is fully filled up with water.

2 Ensure strainer at the end of suction hose is in water.
(If any mud or sand is at the bottom of water, suspend hose avoiding the bottom.)

3 Ensure no obstacle is at delivery hose side.

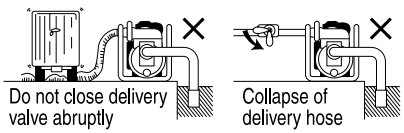
DISSAEMBLY AND CLEANING (Parts replacement)



1. Turn the knob counterclock-wise and remove the knob.
2. Pull the handle towards you, and then both front cover and volute casing can be removed.
3. Remove the peripheral plug before taking impeller out. The impeller can be detached by giving it a shock with a rod or the like.
4. Draw out the mechanichal seal from the engine shaft along with the sleeve.

NOTE: Please do not hammer an impeller directly when you want to take it out from the machine. It might damage the impeller.
Instead, take out the plug set first and then insert something like a stick which is thin enough to get through the hole and hammer the stick at the other end. The impeller can be removed out easily without damaging it.

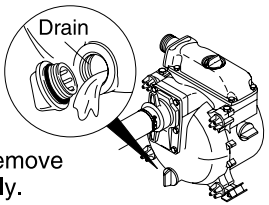
NOTE: When assembling the parts, do not forget to place the adjusting washer, O-ring, etc., in the right positions. Also, correctly install the front cover and evenly tighten the right and left knobs.
Note that incomplete assembling may affect the performance of the unit.

⚠ **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 heavy damage to the pump.  Do not close delivery valve abruptly Collapse of delivery hose
	For engine manual and notes, please refer Engine Operation Manual enclosed.

ATTENTION AFTER USE

1 Drain water after use

After use, remove the drain plug at the bottom and pour water from the suction/disccharge 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 be piled up in the pump casing, making it difficult to remove the front cover. Therefore, clean the inside the pump periodically.



⚠ **CAUTION**	Water inside may freeze at below 0°C in winter and may damage pump. After use, drain water from drain plug before storing.

2 Long storage

Discharge fuel in fuel tank and carburetor completely. Unused fuel in tank (if kept more than 30days) may cause engine failure.
*Please refer Engine Operation Manual.

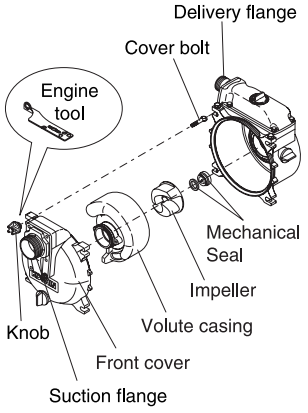
⚠ **CAUTION**	Do not smoke as fuel is highly inflammable.
	Unused fuel must not remain in the tank for long term storage. Unused fuel may cause future engine failure.

TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	SOLUTION
Pump does not revolve	Rusting inside engine	Refer to Instruction manual of engine (Repair)
	Burn out of engine	
	Stuck impeller	Disassemble & clean the impeller⇒ SOLUTION ①
	Intrusion of foreign matters	Remove foreign matters
Not enough delivery volume	Air leakage from suction side	Check piping at suction side⇒ SOLUTION ②
	Output power down from engine	Check & Repair engine
	Damaged mechanical seal	Replace mechanical seal (Repair)
	Suction lift is high	Make suction lift lower
	Thin or too long or kinks of hose	Thicken or shorten or straight
	Leakage of water from delivery hose or pipe	Check and stop leakage of water
	Clogging of foreign matters at impeller	Disassemble & clean the impeller⇒ SOLUTION ①
	Wearing out of impeller	Replace the impeller (Repair)
	High sand content	Remove sand content
Pump does not self-prime water	Air goes in from suction side	Check piping at suction side⇒ SOLUTION ②
	Insufficient priming water inside pump casing	Prime water fully. Refer [BEFORE USE] "5 Fill pump with water before use"
	Drain plug is not tighten	Tighten drain plug firmly. Please refer "ATTENTION AFTER USE"
	Imperfect revolution of engine	Refer to Engine Operation Manual.
	Air leakage from mechanical seal	Replace mechanical seal (Repair)
	Delivery hose is broken	Replace delivery hose

SOLUTION ①

Remove obstacle in impeller.
(Do not remove impeller)



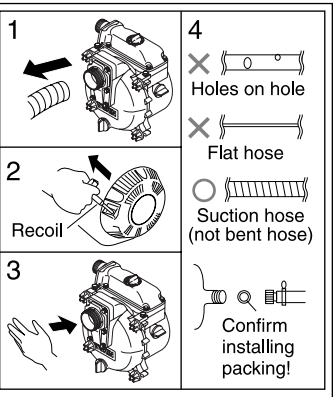
SOLUTION ②

Check suction pipe!

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

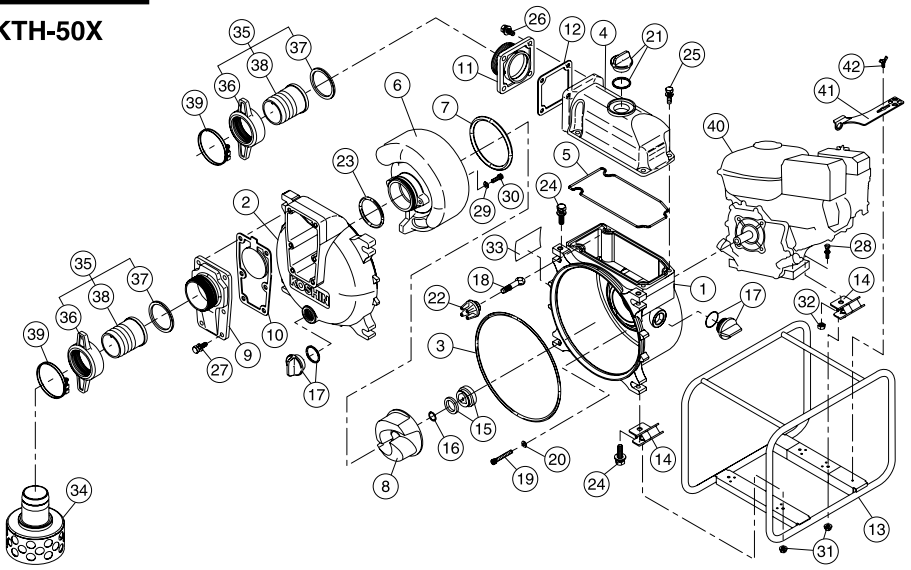
In such case :

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.
4. Please check if rubber packing is installed and if there is any hole on suction hose



PARTS LIST

KTH-50X



KTH-50X

No.	PARTS CODE	PARTS NAME	QTY
1	0115446	Pump Casing	1
2	0115545	Front cover	1
3	0115579	Front cover packing	1
4	0115445	Delivery housing	1
5	0115548	Head packing	1
6	0115489	Volute casing	1
7	0115578	Casing packing	1
8	0115447	Impeller	1
9	0115492	Suction flange (NPT)	1
	0115839	Suction flange (G)	1
10	0115780	Check Valve	1
11	0115444	Delivery flange (NPT)	1
	0115840	Delivery flange (G)	1
12	0115490	Flange packing	1
13	————	Base set	1
14	0116172	WT cushion rubber	4
15	0115159	Mechanical seal	1
16	0110491	Adjusting washer (t=0.3mm)	3
17	0118079	25A Plug set	2
18	0115580	Cover bolt	4
19	0116517	Flange socket bolt (M8×60)	4
20	0116493	Aluminium washer (ϕ8)	4
21	0118450	32A Plug set	1
22	0115590	Knob	4
23	0115676	O-Ring	1

No.	PARTS CODE	PARTS NAME	QTY
24	743119083	Bolt (M12×45)	4
25	743119063	Bolt (M10×30)	4
26	743119046	Bolt (M8×22)	4
27	743119061	Bolt (M10×25)	6
28	743119051	Bolt (M8×35)	2
29	854255008	Seal washer (ϕ8)	2
30	734505066	Socket bolt (M8×25)	2
31	842319008	Spring nut (M8)	4
32	838719008	Hexagon nut (M8)	2
33	————	Name plate	1
34	0115696	Strainer (NPT)	1
	0110977	Strainer (Nipple)	1
35	0117026	Coupling set	2
36	0113390	Coupling	2
37	0113391	Coupling packing	2
38	0110356	Nipple	2
39	940407060	Hose band	3
40	————	Engine	1
41	0115778	Tool	1
42	741305153	Wing bolt	1