



ENGINE PUMP

INSTRUCTION MANUAL

TSURUMI MANUFACTURING CO.,LTD.

1. INTRODUCTION

Thank you for your recent purchase of this TSURUMI Engine pump.

This model machine is designed for your convenience.

This pump features a safe, high-quality, compact and handy design.

Before using, please read this "Instruction Manual" carefully to insure that your use of this pump will be long and trouble free.

2. PREPARATION & CAUTIONARY POINTS

PREPARING THE PUMP FOR STARTING

1.FUEL

(1) Selecting Fuel

2-stroke, Gasoline engine	Use mixture fuel
4-stroke, Gasoline engine	Use automotive gasoline
4-stroke, Diesel engine	Use diesel light oil
4-stroke, Kerosene engine	Use kerosene
	(Automotive gasoline for starting)

(2) Filling Fuel

Fill fuel into the fuel tank.

NOTE: Do not fill the tank while the engine is running.

2.PRIMING WATER

(1) Filling Priming Water

Fill priming water to the top of the pump casing.

3.SUCTION AND DELIVERY HOSE

(1) Install and tighten the suction hose securely.

(2) Install and tighten the delivery hose securely.

NOTE: Strainer should be installed at the end of the suction hose.

All the suction hose joints must be tightly secured to prevent leaks.

3. HOW TO OPERATE & CAUTIONARY POINTS

START THE PUMP

1.Turn the fuel cock lever to "OPEN".

2.Turn the speed regulator to "START".

3. Operation of choke lever.

- (1) When the engine is cold: In cold weather, start with the choke lever fully-closed.
- (2) When the engine is warm: Start with the choke lever fully- opened.

4.Starting

- (1) Pull the recoil starter rope quickly and forcibly.
Repeat until the engine starts.

※Diesel engine: See the engine manual.

OPERATE THE PUMP

1. Idle the engine for 3 to 5 minutes to warm it up.
2. Push the speed regulator handle to the upper zone, when ready to warm up engine.
When the proper RPM for service loads is attained, secure the speed regulator handle by tightening the knob.

STOPPING THE PUMP

1. For short periods
Push the speed regulator handle all the way down and let the engine run at low RPM for a while, then push the stop switch.
2. For long periods
Close the fuel cock, (do not push the stop switch), allowing the engine to idle until the fuel in the carburetor has been used up,(about 2 to 3 minutes) engine will stop after fuel is exhausted.
3. For cold weather periods
Drain all water from the pump.

CAUTION

1. This engine pump is designed for the purpose of transferring water. Do not use in transfer of any flammable liquids.
2. Do not operate without suction strainer attached.
3. Fill engine oil to specified level before operation. (4-stroke engine)
4. Prime the pump before operation.
5. Always operate with safety devices in place and in working order.
6. Do not fill fuel when the engine is hot or running.
7. Do not smoke when filling a fuel or during operation.

4. AFTER USE

PUMP MAINTENANCE

1. Daily inspection

- (1) Tighten any loose nuts and bolts.
- (2) Make sure there are no fuel or oil leaks.

2. After every 100~150 hours of operation.

- (1) Remove the casing cover and clean by washing with water.
- (2) Change the engine lubricating oil. (4-stroke engine)
Do this while the engine is still warm.
- (3) Remove the air cleaner cap and remove the cleaner sponge.
- (4) Rinse the sponge well in gasoline. Squeeze it to remove the fuel and dry, then dip it in new lubricating oil, squeeze it tight and remount.
- (5) Detach and clean the spark plug. The gap should be adjusted to 0.6~0.7mm if necessary. (Gasoline, and Kerosene engine)
- (6) Tighten all outside nuts, bolts, and screw.

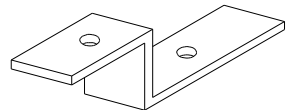
DISASSEMBLY AND CLEANING (For trash pump)

1. Turn the knob to left and remove the casing cover holder.
2. Pull the casing toward you, then casing and the inner casing can be detached.
3. Give the impeller a shock with a rod and then turn the impeller to left.
4. Draw out the mechanical seal from the engine shaft.

MULTI-PURPOSE TOOL maintain the pump easily.

Use it to remove the front cover, impeller and any obstructions inside.

(The pump with ROBIN, and HONDA engine)

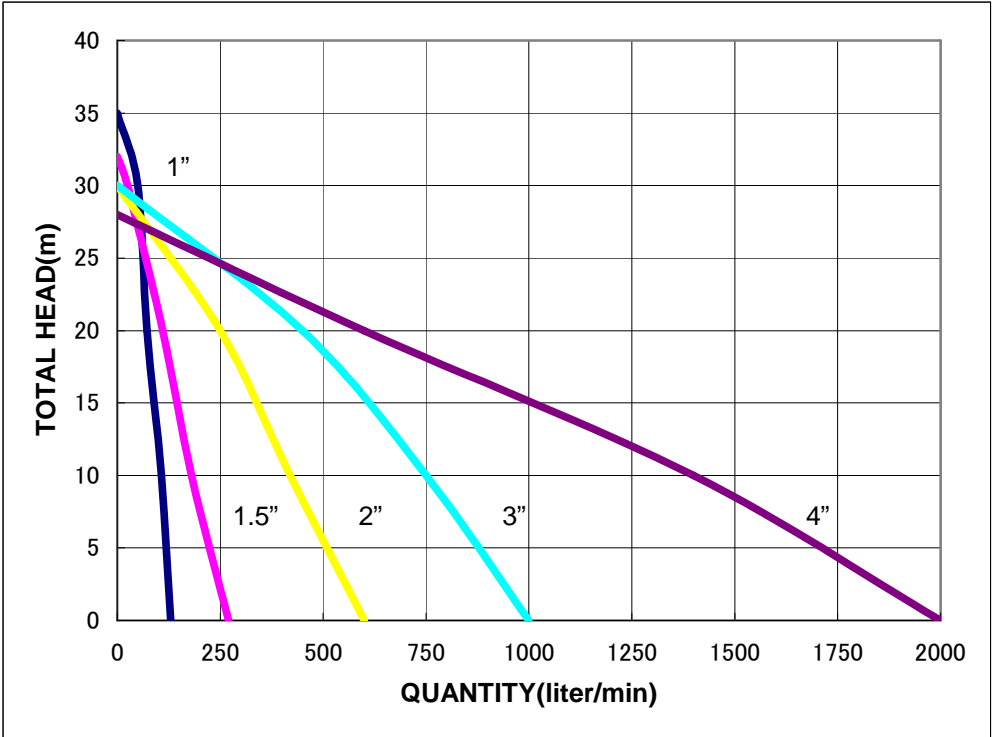


PROPER STORAGE

1. Drain all water from the pump.
2. Drain all fuel from the engine, fuel filter, fuel lines and tank.
3. Store the pump in a dry place free of air-borne sand or dust.
4. Always keep the pump covered.

5.PERFORMANCE CURVE & SPECIFICATIONS

Dewatering pump



Suc.& Dis. Dia mm(inch)	Engine Model & Max. Output (kW)HP/min ⁻¹	Max.Capacity liter(usg)/min	Total.Head m(ft)
25 × 25 (1 × 1)	ROBIN EC04D (1.47)2.0/7000	130(34)	35(115)
	HONDA GX25 (0.81)1.1/7000		
40 × 40 (1.5 × 1.5)	ROBIN EY08D (1.47)2.0/4500	220(58)	33(108)

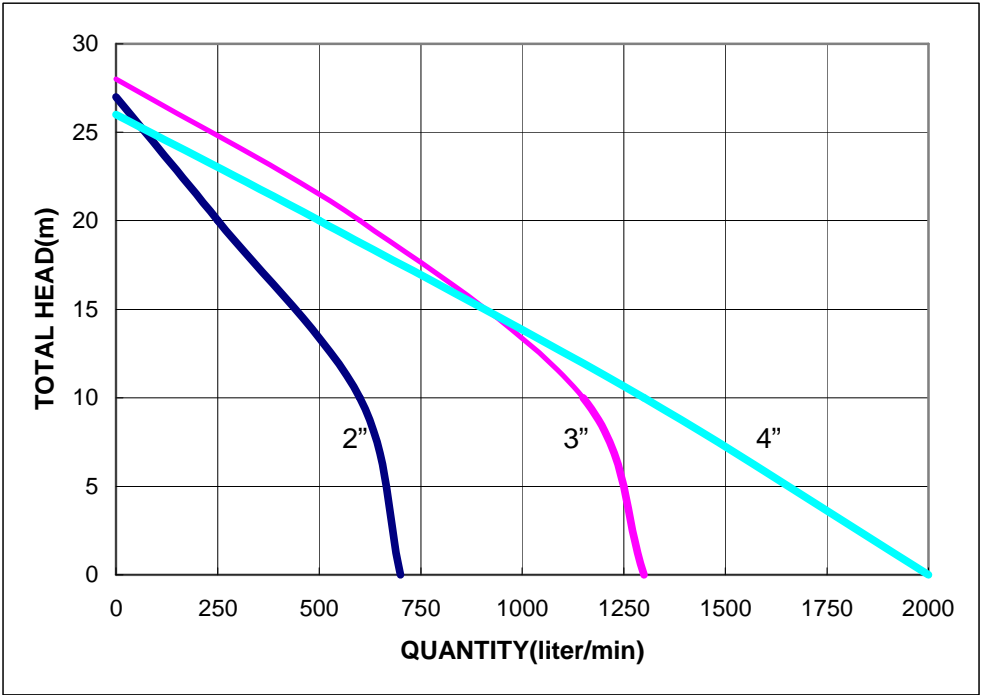
Suc.& Dis. Dia mm(inch)	Engine Model & Max. Output (kW)HP/min ⁻¹	Max.Capacity liter(usg)/min	Total.Head m(ft)
50×50 (2×2)	ROBIN EY15-3D (2.6)3.5/4000	520~600 (137~158)	32(105)
	ROBIN EY15DK (2.4)3.3/4000		
	ROBIN DY23-2D (3.3)4.5/3600		
	ROBIN EX13 (3.2)4.3/4000		
	HONDA GX120 (2.9)4.0/3600		
	YANMAR L48 (3.5)4.7/3600		
80×80 (3×3)	ROBIN EY20-3D (3.7)5.0/4000	1000(264)	32(105)
	ROBIN EY20DK (3.2)4.3/4000		
	ROBIN DY23-2D (3.3)4.5/3600		
	ROBIN EX17 (4.2)5.7/4000		
	HONDA GX160 (4.0)5.5/3600		
	YANMAR L48 (3.5)4.7/3600		
100×100 (4×4)	ROBIN EY28D (5.5)7.5/4000	1800(474)	28(92)
	ROBIN DY27 (5.5)7.5/4000		
	HONDA GX240 (5.9)8.0/3600		

Suction head: 8m(26ft).

※Specifications subject to change without notice.

※Performance of the products might be different depend on the engine bland

Trash pump



Suc. & Dis. Dia mm(inch)	Max. Slid Size mm(inch)	Engine Model & Max. Output (kW)HP/min ⁻¹	Max. Capacity liter(usg/min)	Total Head m(ft)
50×50 (2×2)	25 (1)	HONDA GX160 (4.0)5.5/3600	700 (185)	27 (88)
		ROBIN EX17 (4.2)5.7/4000		
80×80 (3×3)	31 (1.2)	HONDA GX240 (5.9)8.0/3600	1200~1300 (312~343)	24~28 (78~91)
		ROBIN EX27 (6.6)9.0/4000		
		YANMAR L70 (4.9)6.7/3600		

Suc.& Dis. Dia mm(inch)	Max. Slid Size mm(inch)	Engine Model & Max. Output (kW)HP/min ⁻¹	Max.Capacity liter(usg/min)	Total.Head m(ft)
100×100 (4×4)	31 (1.2)	HONDA GX340 (8.0)11.0/3600	1800~2000 (467~528)	24~26 (78~85)
		YANMAR L100 (7.4)10.1/3600		

Suction head: 8m(26ft).

※Specifications subject to change without notice.

※Performance of the products might be different depend on the engine brand

6. TROUBLE SHOOTING

PROBLEM/ SYMPTOM	REASON / REMEDY
Pump does not take in water	<ol style="list-style-type: none"> 1.Not enough priming. / Add priming water. 2.Strainer plugged. / Clean strainer. 3.Suction hose damaged. / Replace or mend suction hose. 4.Air leaking in at suction port. / Tighten all hose coupling securely. 5.Pump placed too high above water. / Move close to casing. 6.Debris collecting in pump casing. / Clean pump casing. 7.Engine speed too low. / Increase engine speed.
Pump takes in water, little or no discharge	<ol style="list-style-type: none"> 1.Suction strainer clogged. / Clean strainer. 2.Impeller worn. / Adjust impeller-volute clearance(add shims) or replace impeller. 3.Worn or damaged wear plate. / Adjust clearance by adding shims or replace impeller. 4.Engine speed too low. / inclease engine speed.
Impeller does not turn. Pump is hard to start.	<ol style="list-style-type: none"> 1.Debris may be collecting on impeller. / Open pump cover and clean debris from interior. 2.Front cover may be fastened too tight. / Loosen cover knob.