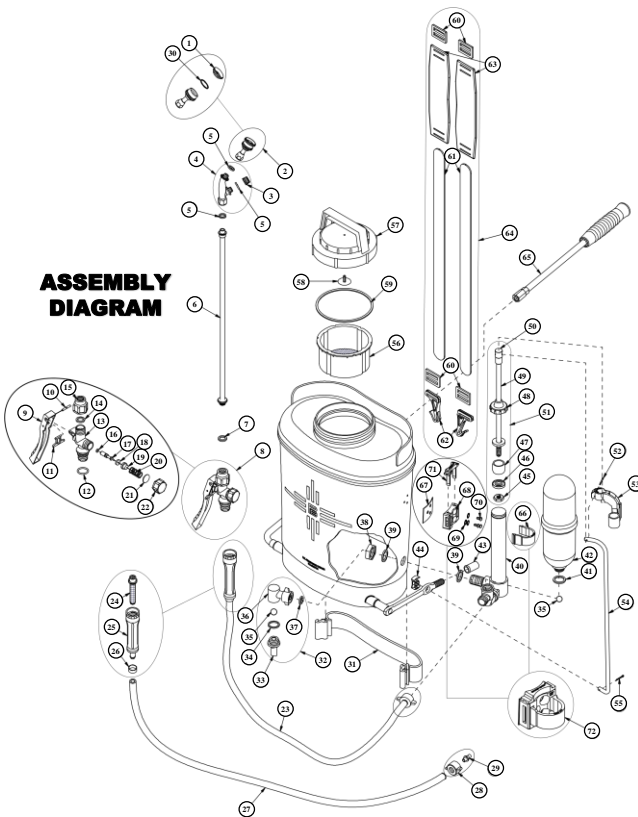


PB-16 & PB-20

Agricultural Knapsack Sprayer

ASSEMBLY DIAGRAM



Made in Malaysia

NO.	CODE	DESCRIPTION
1	LSA/4/1	NOZZLE CAP
2	LSA/4	LIQUID SPRAY ADJUSTABLE NOZZLE
3	TE/2AC	LOCK NUT
4	TE/2A(P1)	TWIN ELBOW
5	333W(B)	WASHER
6	331	SPRAYING LANCE
7	332W	WASHER (MB/47W)
8	321/CPT(P1)	P1 AUTOMATIC RELEASE COMPLETE + P1 ADAPTOR
9	323 (P1)	P1 LEVER FOR AUTOMATIC RELEASE C/W FIXTURE CLIP
10	323A	PIN
11	324	FIXTURE CLIP FOR LEVER [CODE NO.323(P1)]
12	321R	P1 'O' RING 116
13	321A(P1)	P1 AUTOMATIC RELEASE BODY
14	MEJ/22W	WASHER
15	ADT/321(PA1)	P1 ADAPTOR FOR AUTOMATIC RELEASE TO LANCE
16	325R	'O' RING 008
17	325	SPINDLE
18	326	DISC
19	327	VALVE
20	328	SPRING FOR AUTOMATIC RELEASE
21	329W	WASHER FOR PLUG
22	330	PLUG FOR AUTOMATIC RELEASE
23	346(P2)	P2 SPRAYING HOSE C/W CHAMBER & UNION
24	322(P1)	P1 STRAINER FOR CHAMBER
25	341(P1)	P1 CLEANING CHAMBER
26	342	HOSE CLIP (MOO)
27	340	HOSE
28	344#2	UNION (FOR HOSE PLUG TYPE NIPPLE)
29	343#1	NIPPLE FOR HOSE (INNER) / HOSE PLUG
30	LSA/4/2W	WASHER OF LSA/4 NOZZLE
31	304	STAND GUARD
32	312/CPT	SUCTION VALVE COMPLETE
33	310(P1)	RISING TUBE
34	310W	WASHER
35	311	BALL
36	312	SUCTION VALVE BODY
37	312W	WASHER
38	318	SCREW
39	317W	WASHER
40	315/CPT(PA1)	PUMP CYLINDER COMPLETE W/O HOLDER
41	317W	WASHER
42	319	AIR CYLINDER COMPLETE
43	MBP/03A	COVER BUSH LEVER
44	313P	BUSH FOR PULL BAR
45	309P	NUT FOR PISTON
46	308P	WASHER FOR PISTON (LOWER SIDE)
47	307	PISTON
48	314	MILLED NUT FOR PUMP CYLINDER
49	306	PISTON ROD
50	305	NIPPLE FOR PISTON ROD
51	306/CPT#2	PISTON ROD COMPLETE
52	313C	PIN (3/32" X 3/4")
53	MB/63(P)	LANCE LEVER CLIP
54	313	PULL BAR
55	313B	PIN (1/8" X 5/8")
56	303	STRAINER
57	301	COVER OF TANK C/W RING
58	301V	VALVE FOR COVER
59	301R	RING FOR COVER
60	338	STRAP HOLDER
61	337	SHOULDER STRAP
62	339P	HOOK
63	337B	SHOULDER PAD
64	337/CPT(B)P	SHOULDER STRAP COMPLETE WITH PAD
65	347(A)	PUMP HANDLE COMPLETE WITH HAND SLEEVE
66	315HC	PUMP CYLINDER CLIP
67	315WP	SEALING PAD
68	315H	PUMP CYLINDER HOLDER
69	315SHF	FLAT WASHER
70	315SHB	SCREW
71	315HP	PUMP CYLINDER HOLDER LOCK PIN
72	315H#	PUMP CYLINDER HOLDER COMPLETE SET (NO. 66 TO 71)

PB-16 & PB-20

AGRICULTURAL KNAPSACK SPRAYER

OUTSTANDING FEATURES

- * Lightweight
- * Durable
- * Safety and Easy Operation
- * Good Pressure
- * Easy Maintenance
- * Spare Parts Available



Standard Spare Parts	Quantity
Spraying Lance (331)	1
Handle Complete [(347(A)]	1
Liquid Spraying Adjustable Nozzle [LSA/4(LG)] Flow Rate: (1.30 – 1.45) L/Min at pressure 2.8 bar	1
Twin Elbow [TE/2A(P1)]	1
Strainer [322(P1)]	1
Washer Set and Nozzle Cap [LSA/4/1(R)] Flow Rate: (0.70 – 0.85) L/Min at pressure 2.8 bar	1 set

General Specification

Model	PB-16	PB-20
Tank Capacity	16.00 Litres	19.15 Litres
Pump Type	Piston	Piston
Pump Action	Left / Right Hand	Left / Right Hand
Maximum Pressure	8.00 kg/cm ²	8.00 kg/cm ²
Working Pressure	(2.0-4.0) kg/cm ²	(2.0-4.0) kg/cm ²
Measurement	(448 x 253 x 476) mm	(448 x 253 x 530) mm
Net Weight	4.30 Kg	4.45 Kg
Gross Weight	5.20 Kg	5.50 Kg

SYARIKAT JUN CHONG SDN. BHD.

(Company No. 11881-U)

CROSS MARK® SPRAYER MANUFACTURER

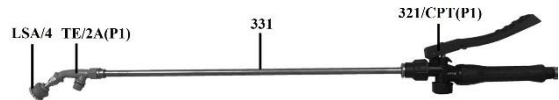
18, Jalan Lambak, P.O.Box 51, 86000 Kluang, Johor, Malaysia

TEL: (6)07-7725188 FAX: (6)07-7724490

Email: sales@junchong.com.my

Website: www.junchong.com.my

Operating Instruction



- 1) The lance (331) with twin elbow [TE/2A(P1)] and LSA/4 nozzle are screwed onto the automatic release completed [321/CPT(P1)] with hose [346(P2)] and connected with sprayer.
- 2) Check all the joints are tightened properly with washer to prevent leaking.



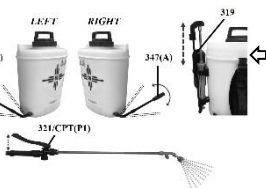
- 3) Fill 2ml SAE30 lubrication oil into the pump cylinder [315/CPT(PA1)]. The oil bath should be above the piston (307).

- 4) Fill the chemical mixture into the sprayer tank through the strainer (303) in order to filtrate the dirt and sediments.



- 5) Shoulder straps (337) are fully adjustable to ensure operator's comfort in fieldwork.

- 6) To carry the sprayer, shoulder strap hook (339P) can either be hooked on stand guard (304) or the base of the tank.



- 7) The pump handle [347(A)] can be fixed for right or left hand operation, then pumping upward and downward repeatedly for 6 or 7 strokes to build up pressure. Therefore, squeezing the trigger [321/CPT(P1)] will allow the liquid to flow into the spraying lance and spray out through the nozzle at a certain pressure.

- 8) To maintain satisfactory pressure for spraying, please refer to the table as a guideline for number of stroke to achieve the listed locking pressure.

Locking Pressure (psi)	Number of Strokes
20	5
40	6
60	7
80	8

Maintenance Guides

- 1) To clean the sprayer
Fill clean water into the sprayer tank and bring the sprayer under pressure by pumping the handle for several strokes, then squeezing the trigger to allow the clean water flowed into spraying lance and nozzle in order to clean the mechanism portion and nozzle.
- 2) To wash the nozzle (LSA/4) and filter [322(P1)]
Remove the nozzle cap (LSA/4/1) and the filter [322(P1)] from cleaning chamber for cleaning purpose. Then, replace them back after cleaning.
- 3) To clean the valve of pump cylinder
Unscrewing the air cylinder (319) and take out the ball bearing (311) for cleaning purpose. Replace them back after washing and cleaning.
- 4) Fix all the joints properly
All of the joints must be tightened properly with washer.

It is very Important

**Must clean the nozzle cap and filter [322(P1)] properly after using the sprayer.

Problems and Remedies

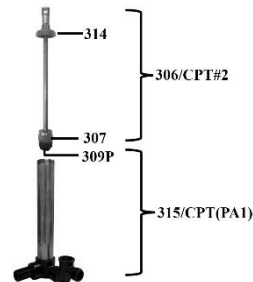
1) Piston (307)

PROBLEM:

- a.) Chemical mixture spilt out from milled nut (314).
- b.) Chemical mixture mixed with lubrication oil when spraying.

SOLUTION:

- a.) Piston (307) loosed:- Take out the piston rod (306/CPT#2) tighten with nut (309P) slightly to make the piston convex shape and replace into the pump cylinder [315/CPT(PA1)].
- b.) Wear of piston (307) or pump cylinder [315/CPT(PA1)]:- Replace the piston (307) or pump cylinder [315/CPT(PA1)].



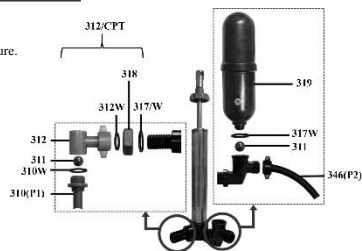
2) Suction Valve (312/CPT)

PROBLEM:

- a.) Normal operation but cannot build up pressure.

SOLUTION:

- a.) Problems of suction valve (312/CPT):- Ensure the ball bearing (311) inside the suction valve (312/CPT) and the washer (312W) is in good conditions. Otherwise, replace the ball bearing (311), washer(312W) or suction valve (312/CPT) if worn or damaged.



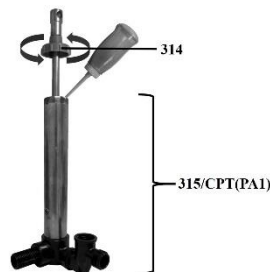
3) Pump Cylinder [315/CPT(PA1)]

PROBLEM:

- a.) Heavy operation on piston rod.

SOLUTION:

- a.) Lack of lubrication oil:- unscrew the milled nut (314) and fill 2ml of SAE 30 lubrication oil into the pump cylinder [315/CPT(PA1)]. Shake the piston rod (306/CPT#2) inside pump cylinder [315/CPT(PA1)] until smooth, then screw back the mill nut (314) onto pump cylinder [315/CPT(PA1)].



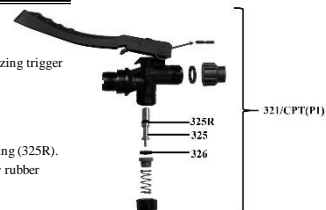
4) O-Ring (325R) Rubber Disc (326)

PROBLEM:

- a.) Dripping from the brass spindle (325).
- b.) Dripping from the nozzle tip without squeezing trigger [321/CPT(P1)].

SOLUTION:

- a.) O-ring (325R) is worn:- Replace a new o-ring (325R).
- a.) Rubber Disc (326) is worn:- Replace a new rubber disc (326).



5) Nozzle (LSA/4)

PROBLEM:

- a.) Nozzle (LSA/4) cannot be adjusted anymore.
- b.) Nozzle Cap (LSA/4/1) jammed.

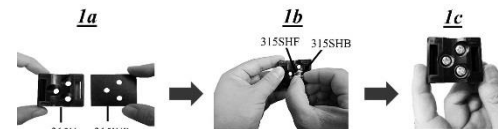
SOLUTION:

- a.) Put some lubrication oil into the nozzle housing from bottom side, and then adjust the nozzle housing repeatedly by hand.
- b.) Loosen the nozzle housing and make sure there is enough space between the nozzle cap (LSA/4/1) and the spindle disc of nozzle housing, and then remove the nozzle cap (LSA/4/1) by hand.



Installation Instruction of Pump Cylinder Holder

- 1) Place the Sealing Pad (315WP) behind the Pump Cylinder Holder (315H), put the Screw (315SHB) and Flat Washer (315SHF) together onto the hole of Pump Cylinder Holder and Sealing Pad as picture shown.



- 2) Screw the assembled Pump Cylinder Holder as picture (1c) to the Tank Body shown in the picture.



- 3) Fix the Pump Cylinder Clip (315HC) onto the Pump Cylinder Holder. Insert and press the left hand side clip and then right hand side clip onto the left and right vertical gap of pump cylinder holder as picture shown.



- 4) Fix the Pump Cylinder Holder Lock Pin (315HP) onto the Pump Cylinder Holder from top. Press down the Lock Pin fully to Pump Cylinder Holder, then fix and screw the Air Cylinder as picture shown.



General Used Conversion Table

1 Litre	=	1,000 c.c.
1 Litre	=	0.22 Gal.
1 Gal. (UK)	=	4.55 Litre
1 kg/cm ²	=	14.22 psi
1 bar	=	14.50 psi
1 kg	=	2.20 lbs
1 in.	=	2.54 cm