Hitachi Power Tools

SERVICE MANUAL

LIST No. F202 Apr. 2010

PRODUCT NAME

Hitachi Portable Grinder Model 25 mm (1") GP 2S2

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1. Precautions on Disassembly and Reassembly

[Bold] numbers in the descriptions below correspond to numbers in the Parts List and exploded assembly diagram.

Disassembly

1. Disassembly of the Armature Ass'y

- Loosen the Tapping Screw (W/Flange) D4 x
 16 [41] to pull out the Tail Cover [40].
- (2) Remove the two Carbon Brush **[29]** from the Brush Holder **[30]**.
- (3) Loosen the four Tapping Screw (W/Sp. Washer) D5 x 30 [6] and remove the Nose Bracket [8]. Use a screwdriver to separate the Inner Cover [15] from the Housing [26], and then remove the Inner Cover [15] together with the Armature Ass'y [17].
- (4) As illustrated in Fig, 1, support the Inner Cover [15] with a tubular jig having an inner diameter large enough (63 mm) to accommodate the Armature Ass'y [17], and then push down the end of the Armature Ass'y [17] shaft with a hand press to remove the Armature Ass'y [17].

2. Disassembly of Coupling

The Coupling **[10]** may be difficult to remove from the Armature Ass'y **[17]** due to rust. if it cannot be removed by pulling by hand, follow the procedure below.

- (1) As illustrated in Fig. 2, use a screwdriver or similar tool to slightly lift the Coupling **[10]** and partially remove it.
- (2) Tap the Coupling **[10]** lightly with a wooden hammer to push it again.
- (3) Repeat steps (1) and (2) several times until freeing enough rust to allow complete removal of the Coupling **[10]**.

3. Disassembly of the Dust Seal





- (1) Insert the hooks of the J204 bearing puller between the commutator and Dust Seal **[21]** from both sides, and then fix the hooks with the wing bolts.
- (2) Place the J204 bearing puller on a supporting jig, and then push down on the armature shaft with a hand press to remove the Dust Seal **[21]** together with the Ball Bearing 608VVC2PS2L **[22]**. Replace the Dust Seal **[21]** damaged by removing the Ball Bearing 608VVC2PS2L **[22]** with a new one.

4. Disassembly of the Stator (A)

- (1) Remove the Armature Ass'y [17], and then pull out both Brush Holder [30] from the Housing [26].
- (2) Disconnect the internal wires of the Stator (A) [20] from the Brush Holder [30].
- (3) Loosen the set screw on the Slide Switch **[35]** and disconnect the two internal wires protruding from the Stator (A) **[20]**.
- (4) Remove the Fan Guide [18] from the Housing [26].
- (5) Loosen the two Hex. Hd. Tapping Screw D4 x 70 [19] and remove the Stator (A) [20] from the Housing [26]. If the Stator (A) [20] cannot be easily removed, heat the Housing [26] to about 60°C. The Stator (A) [20] can then be easily removed.

5. Disassembly of the Slide Knob

- (1) Loosen the Tapping Screw (W/Flange) D4 x 16 [41] to pull out the Tail Cover [40].
- (2) Hold the Housing [26] and raise the Slide Bar [32] until the Slide Knob [24] moves to the "ON" position.
- (3) Confirm that the Slide Knob **[24]** has not moved to the "ON-LOCK" position, and then push down on the Slide Knob **[24]** until it clicks, while keeping the Slide Bar **[32]** raised.
- (4) Raise the Slide Knob [24] straight up and remove it, while keeping the Slide Bar [32] raised.

6. Disassembly of the Spindle

Loosen the Hex. Socket Set Screw M4 x 4 [16], and remove Bearing Lid (B) [2].

The Spindle [3] can then be taken out.

Reassembly

Reassemble the parts by reversing the disassembly procedure, and note the precautions given below.

(1) To replace the Armature Ass'y [17] and Ball Bearing 608VVC2PS2L [22] on the commutator side, press in the Dust Seal [21] while carefully noting its direction until the end face of the Dust Seal [21] strikes the butting surface of the Armature Ass'y [17]. Make sure that the Dust Seal [21] cannot turn freely. (See Fig. 3.)

The Dust Seal **[21]** is an important component for improved dust protection of the Ball Bearing 608VVC2PS2L **[22]**. Be sure to use a new one every time you disassemble the Ball Bearing 608VVC2PS2L **[22]**.



- Fig. 4 Connect to the Brush Holder [30] (Side A) Connect to the Brush Holder [30] (Side B) Side B Connect both the internal wire of the Noise Suppressor [38] and this wire to Tube (D) [39] with a solderless connection and connect it to the Slide Switch [35]. (If the Noise Suppressor [38] is not used, connect this internal wire to the Slide Switch [35] Side A after clamping Tube (D) [39] with the solderless connection.) Fig. 5 a. Choke coil and Noise Suppressor provided b. Noise Suppressor not provided
- (2) Connect the four internal wires of Stator (A) **[20]** with the parts indicated in Fig. 4. Connect the internal wires correctly as shown in Fig. 5.

- (3) When connecting the Earth Terminal [37] to the internal wire (middle wire among three) of the Noise Suppressor [38], strip off about 6 mm of the insulation sheath on the internal wire, and then press-connect it together with the Earth Terminal [37] with a clamping tool available on the market.
- (4) Confirm that the spring end does not hold the pigtail when mounting the carbon brush. Do not catch the pigtail in the tail cover when mounting the tail cover.



Adhesive Agent

• Hex. Socket Set Screw M4 x 4 [16]------ TB1406 (Synthetic rubber base)

Tightening Torque

• Tapping Screw D4 [19][36][41]	- 2.0 ± 0.5 N•m (20 ± 5 kgf	•cm, 1.5 ± 0.4 ft-lbs)
• Seal Lock Screw (W/Sp. Washer) M4 x 10 [11]	- 1.8 ± 0.5 N•m (18 ± 4 kgf	•cm, 1.3 ± 0.3 ft-lbs)
• Tapping Screw (W/Sp. Washer) D5 x 30 [6]	- 2.9 ± 0.5 N•m (30 ± 5 kgf	•cm, 2.2 ± 0.4 ft-lbs)
• Hex. Socket Set Screw M4 x 4 [16]	$-0.5 + \frac{0.5 \text{ N} \cdot \text{m}}{0} \left(5 + \frac{5 \text{ kgf}}{0}\right)$	$(\operatorname{cm}, 0.4 + \frac{0.4 \text{ ft-lbs}}{0})$
• Bearing Lid (B) [2]	- 6.9 ± 0.5 N•m (70 ± 5 kgf	•cm, 5.0 ± 0.4 ft-lbs)

Insulation Tests

Upon the completion of disassembly and repair, measure the insulation resistance and conduct a dielectric strength test.

Insulation resistance: 10 $\text{M}\Omega$ or more with DC 500 V megohm tester

Dielectric strength test: AC 4,400 V for 3 seconds, with no abnormalities ------ 220 to 240 V products AC 3,000 V for 3 seconds, with no abnormalities ------- 110 to 127 V products

No-Load Current Value

After no-load operation for 30 minutes, the no-load current value should be as follows:

Voltage (V)	110	120	127	220	230	240
Current (A) max.	4.9	4.7	4.0	2.5	2.4	2.3

Wiring Diagrams



(1) For European countries, Australia, New Zealand, South Africa, and China

(2) For other countries



STANDARD REPAIR TIME (UNIT) SCHEDULES

MODEL	Variable Fixed	10	20	30	40	50	60 min.
GP 2S2		Work Flow					
	General Assembly-	Cord Tail Cover Carbon Brush x 2		Housing Stator (A) Slide Bar			
			Spindle Ball Bearing 6001VVCMPS2L Ball Bearing 6000VVCMPS2L Armature Ball Bearing 608VVC2PS2L	•			
			Inner Cover Ball Bearing 608VVC2PS2L Bearing Cover	Nose Bracket Bearing Lid (B)			



	PA	IN IS				GP 2S2
	ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
*	1	331-421	COLLET CHUCK 6MM	1		
*	1	331-422	COLLET CHUCK 1/4"	1	FOR USA, CAN, MEX, PAN (120V), AUS	
	2	332-452	BEARING LID (B)	1		
	3	332-453	SPINDLE	1		
-	4	600-1VV	BALL BEARING 6001VVCMPS2L	1		
ſ	5	932-617	RING	1		
-	6	986-011	TAPPING SCREW (W/SP. WASHER) D5 X 30	4		
Ē	7	317-807	GUARD PLATE	1		
Ē	8	331-474	NOSE BRACKET	1		
Ē	9	600-0VV	BALL BEARING 6000VVCMPS2L	1		
Γ	10	985-140	COUPLING	1		
Ē	11	987-201	SEAL LOCK SCREW (W/SP. WASHER) M4 X 10	2		
Ē	12	949-453	SPRING WASHER M4 (10 PCS.)	2		
Ē	13	937-876	BEARING COVER	1		
ŀ	14	608-VVM	BALL BEARING 608VVC2PS2L	1		
ľ	15	331-475	INNER COVER	1		
ŀ	16	981-478	HEX. SOCKET SET SCREW M4 X 4	1		
*	17	360-879U	ARMATURE ASS'Y 110V-120V	1	INCLUD. 14. 21. 22	
*	17	360-879E	ARMATURE 220V-230V	1		
*	17	360-879F	ARMATURE 240V	1		
F	18	319-898	FAN GUIDE	1		
	19	982-021	HEX. HD. TAPPING SCREW D4 X 70	2		
*	20	340-758C	STATOR (A) 110V-120V	1		
*	20	340-758G	STATOR ASS'Y (A) 110V	1	FOR GBR (110V)	
*	20	340-758M	STATOR (A) 110V	1	FOR TPE	
*	20	340-758E	STATOR (A) 220V-230V	1		
*	20	340-758H	STATOR (A) 230V	1	FOR NZL	
*	20	340-758F	STATOR (A) 240V	1		
*	20	340-758L	STATOR (A) 240V	1	FOR AUS	
	21	315-877	DUST SEAL	1		
ľ	22	608-VVM	BALL BEARING 608VVC2PS2L	1		
	23	332-804	WASHER M14	1		
ŀ	24	314-428	SLIDE KNOB	1		
ŀ	25		CAUTION PLATE	1		
F	26	317-802	HOUSING	1		
ŀ	27	-	NAME PLATE	1		
ŀ	28		HITACHI LABEL	1		
ŀ	29	999-088	CARBON BRUSH (1 PAIR)	2		
ľ	30	317-810	BRUSH HOLDER	2		
ľ	31	308-536	SPRING	2		
ľ	32	317-806	SLIDE BAR	1		
ľ	33	314-429	SPRING	1		
ľ	34	995-662	RUBBER RING	1		
*	35	332-805	SLIDE SWITCH (2P PILLAR TYPE)	1		
*	35	321-208	SLIDE SWITCH (2P PILLAR TYPE)	1	FOR USA, CAN	
ľ	36	984-750	TAPPING SCREW (W/FLANGE) D4 X 16	3		
ľ	37	314-854	EARTH TERMINAL	1		
ľ	38	325-566	NOISE SUPPRESSOR	1		
ľ	39	981-373	TUBE (D)	2		
ľ	40	317-808	TAIL COVER	1		
. L.						

	PA	RTS				GP 2S2
	ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
	41	984-750	TAPPING SCREW (W/FLANGE) D4 X 16	1		
	42	317-811	SWITCH HOLDER	1		
	43	937-631	CORD CLIP	1		
	44	981-373	TUBE (D)	2		
*	45	953-327	CORD ARMOR D8.8	1		
*	45	938-051	CORD ARMOR D10.1	1		
*	46	500-409Z	CORD	1	(CORD ARMOR D8.8)	
*	46	500-247Z	CORD	1	(CORD ARMOR D8.8) FOR FIN, DEN, SWE, NOR	
*	46	500-461Z	CORD	1	(CORD ARMOR D8.8) FOR GBR (110V)	
*	46	500-435Z	CORD	1	(CORD ARMOR D8.8) FOR GBR (230V), HKG	
*	46	323-974	CORD	1	(CORD ARMOR D10.1) FOR UAE, TPE	
*	46	500-240Z	CORD	1	(CORD ARMOR D8.8) FOR USA, CAN, PAN (120V)	
*	46	500-237Z	CORD	1	(CORD ARMOR D8.8) FOR CHI	
*	46	500-484Z	CORD	1	(CORD ARMOR D8.8) FOR ARG	
*	46	500-439Z	CORD	1	(CORD ARMOR D8.8) FOR AUS, NZL	
*	46	500-455Z	CORD	1	(CORD ARMOR D8.8) FOR CHN, PHI	
*	46	500-423Z	CORD	1	(CORD ARMOR D8.8) FOR SIN, MAL	
*	46	500-234Z	CORD	1	(CORD ARMOR D8.8) FOR KOR	

STANDARD ACCESSORIES

STANDARD ACCESSORIES G						
ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS		
501	936-553	WRENCH 12MM	1			
502	936-638	WRENCH 17MM	1			
503	324-548	SIDE HANDLE	1			
504	330-061	FLANGED SLEEVE	1			
505	330-060	SIDE HANDLE SLEEVE ASS'Y	1	INCLUD. 503, 504		

OPTIONAL ACCESSORIES

601 932-624 COLLET CHUCK 3MM 1 602 985-135 COLLET CHUCK 8MM 1 603 985-136 COLLET CHUCK 1/8" 1 604 939-103 MOUNTED WHEELS KA-4 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 605 939-104 MOUNTED WHEELS KA-5 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 606 939-107 MOUNTED WHEELS KA-3 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 607 949-021 MOUNTED WHEELS KA-3 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 608 939-107 MOUNTED WHEELS KA-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 608 939-110 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 610 939-115 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 611 939-118 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 612 939-118 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 614 939-		ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
602 985-135 COLLET CHUCK 1/8" 1 604 939-103 MOUNTED WHEELS KA-4 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 606 939-104 MOUNTED WHEELS KA-4 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 606 939-104 MOUNTED WHEELS KA-5 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 606 949-021 MOUNTED WHEELS KA-12 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 607 949-021 MOUNTED WHEELS KA-12 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 608 949-022 MOUNTED WHEELS KA-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 609 939-110 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 610 939-118 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 611 939-118 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 613 939-119 MOUNTED WHEELS KC-24 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 614 939-120 DRESSER C36PV		601	932-624	COLLET CHUCK 3MM	1		
603 985-136 COLLET CHUCK 1/8" 1 604 939-103 MOUNTED WHEELS KA-4 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 605 939-104 MOUNTED WHEELS KA-5 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 606 939-107 MOUNTED WHEELS KA-3 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 607 949-021 MOUNTED WHEELS KA-12 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 608 949-022 MOUNTED WHEELS KA-12 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 608 949-021 MOUNTED WHEELS KA-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 610 939-115 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 611 939-115 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 612 939-118 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 613 939-119 MOUNTED WHEELS KC-24 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 614 939-120 DRESSER C36PV		602	985-135	COLLET CHUCK 8MM	1		
604 939-103 MOUNTED WHEELS KA-4 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 605 939-107 MOUNTED WHEELS KA-3 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 606 939-107 MOUNTED WHEELS KA-3 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 607 949-021 MOUNTED WHEELS KA-12 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 608 939-107 MOUNTED WHEELS KA-12 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 609 939-110 MOUNTED WHEELS KA-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 610 939-117 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 611 939-118 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 612 939-119 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 613 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX 614 939-120 DRESSER C36PV		603	985-136	COLLET CHUCK 1/8"	1		
605 933-104 MOUNTED WHEELS KA-5 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 606 933-107 MOUNTED WHEELS KA-12 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 607 949-021 MOUNTED WHEELS KA-12 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 608 939-101 MOUNTED WHEELS KA-13 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 609 939-110 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 610 939-115 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 611 939-118 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 613 939-119 MOUNTED WHEELS KC-24 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX 615 939 1 1 1	*	604	939-103	MOUNTED WHEELS KA-4 D6 SHAFT (10 PCS.)	1	EXCEPT FOR USA, CAN, MEX	
606 939-107 MOUNTED WHEELS KA-8 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 607 949-021 MOUNTED WHEELS KA-12 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 608 949-022 MOUNTED WHEELS KA-12 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX 609 939-110 MOUNTED WHEELS KA-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 610 939-117 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 611 939-117 MOUNTED WHEELS KC-23 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 612 939-118 MOUNTED WHEELS KC-24 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 613 939-119 MOUNTED WHEELS KC-24 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX 615 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX 616 939-120 DRESSER C36PV 1	*	605	939-104	MOUNTED WHEELS KA-5 D6 SHAFT (10 PCS.)	1	EXCEPT FOR USA, CAN, MEX	
* 607 949-021 MOUNTED WHEELS KA-12 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 608 949-022 MOUNTED WHEELS KA-13 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 609 939-110 MOUNTED WHEELS KA-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 610 939-115 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 611 939-117 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 613 939-117 MOUNTED WHEELS KC-24 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1	*	606	939-107	MOUNTED WHEELS KA-8 D6 SHAFT (10 PCS.)	1	EXCEPT FOR USA, CAN, MEX	
* 608 949-022 MOUNTED WHEELS KA-13 D6 SHAFT (10 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 609 939-110 MOUNTED WHEELS KA-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 610 939-115 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 611 939-115 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 613 939-118 MOUNTED WHEELS KC-24 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX *	*	607	949-021	MOUNTED WHEELS KA-12 D6 SHAFT (10 PCS.)	1	EXCEPT FOR USA, CAN, MEX	
* 609 939-110 MOUNTED WHEELS KA-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 610 939-115 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 611 939-117 MOUNTED WHEELS KC-22 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 612 939-118 MOUNTED WHEELS KC-23 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 613 939-119 MOUNTED WHEELS KC-24 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -	*	608	949-022	MOUNTED WHEELS KA-13 D6 SHAFT (10 PCS.)	1	EXCEPT FOR USA, CAN, MEX	
* 610 939-115 MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 611 939-117 MOUNTED WHEELS KC-22 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 612 939-118 MOUNTED WHEELS KC-23 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 613 939-119 MOUNTED WHEELS KC-24 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX * * * *	*	609	939-110	MOUNTED WHEELS KA-20 D3 SHAFT (20 PCS.)	1	EXCEPT FOR USA, CAN, MEX	
* 611 939-117 MOUNTED WHEELS KC-22 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 612 939-118 MOUNTED WHEELS KC-23 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 613 939-119 MOUNTED WHEELS KC-24 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX * 614 614 614 614 614 614	*	610	939-115	MOUNTED WHEELS KC-20 D3 SHAFT (20 PCS.)	1	EXCEPT FOR USA, CAN, MEX	
* 612 939-118 MOUNTED WHEELS KC-23 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 613 939-119 MOUNTED WHEELS KC-24 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX - - - - - - - - - - - - - - - - - - - - - - - - - - - -	*	611	939-117	MOUNTED WHEELS KC-22 D3 SHAFT (20 PCS.)	1	EXCEPT FOR USA, CAN, MEX	
* 613 939-119 MOUNTED WHEELS KC-24 D3 SHAFT (20 PCS.) 1 EXCEPT FOR USA, CAN, MEX * 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -<	*	612	939-118	MOUNTED WHEELS KC-23 D3 SHAFT (20 PCS.)	1	EXCEPT FOR USA, CAN, MEX	
* 614 939-120 DRESSER C36PV 1 EXCEPT FOR USA, CAN, MEX	*	613	939-119	MOUNTED WHEELS KC-24 D3 SHAFT (20 PCS.)	1	EXCEPT FOR USA, CAN, MEX	
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