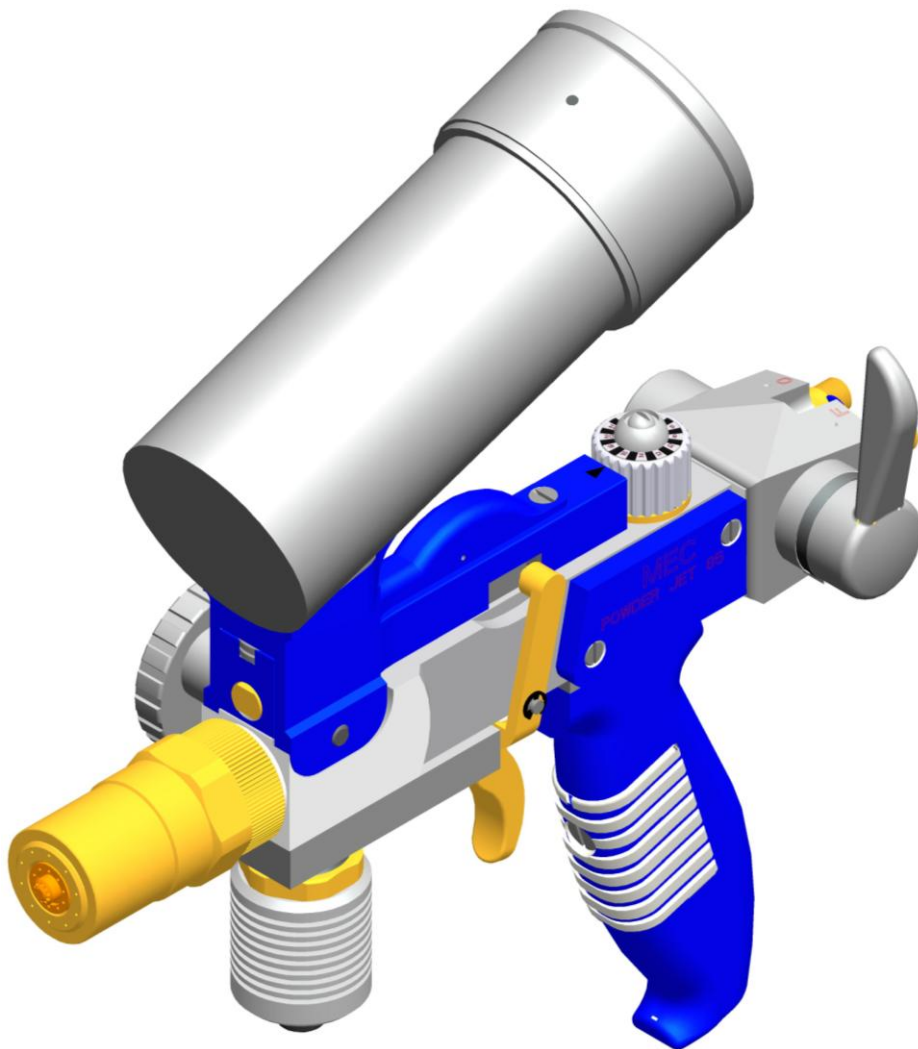
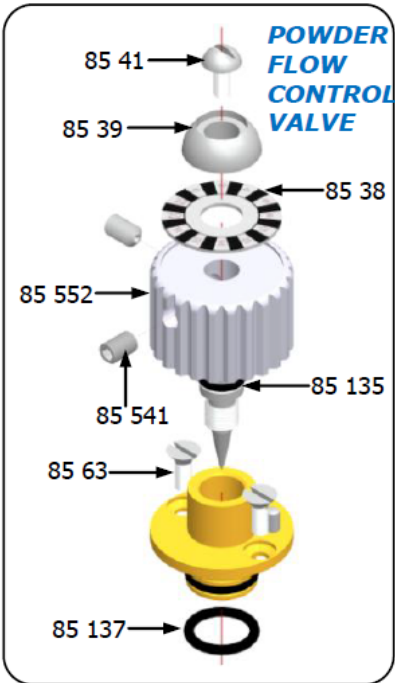
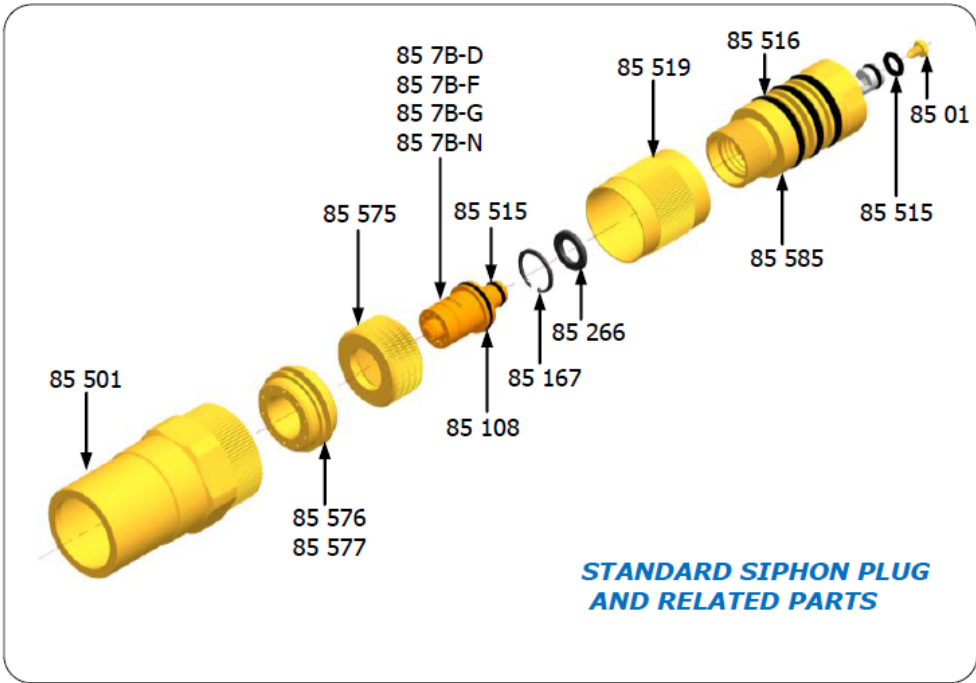


THERMAL SPRAY FACILITIES

AUTOMATIC SYSTEMS for HVOF, PLASMA, FLAME SPRAY, ARC SPRAY & ROD SPRAY

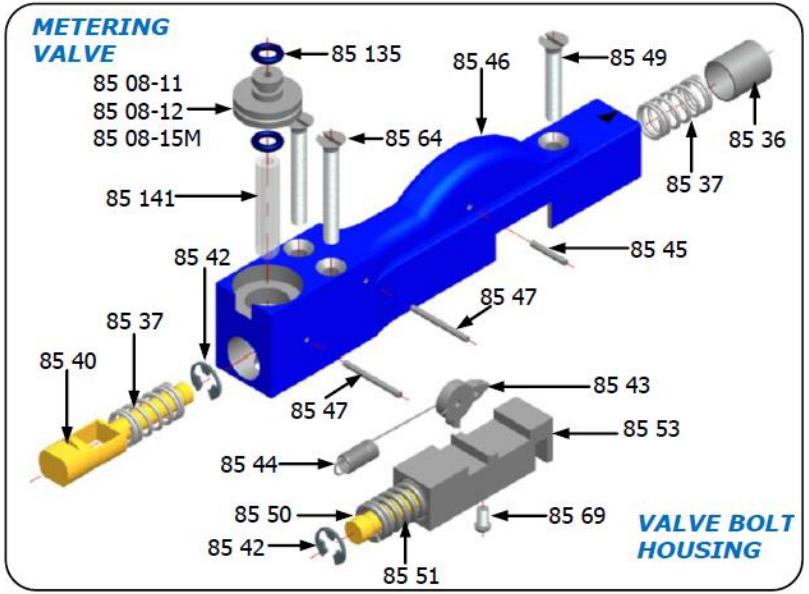
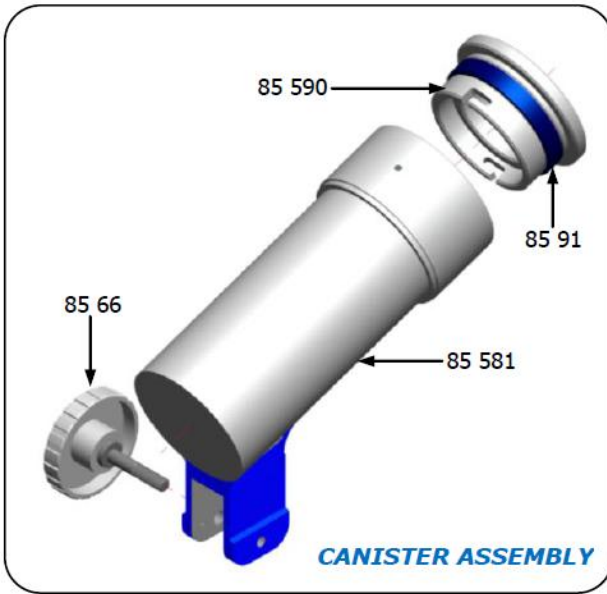
POWDERJET-85-II





ACS PART No.	OEM PART No.	GENERAL DESCRIPTION
STANDARD SIPHON PLUG ASSEMBLY AND RELATED PARTS		
85 01	5P 01	Aspirator jet screw
85 7B-B	5P 7B-B	“ B” Nozzle assembly (include 85 108,85 105)
85 7B-D	5P 7B-D	“ D” Nozzle assembly (include 85 108,85 105)
85 7B-F	5P 7B-F	“ F” Nozzle assembly (include 85 108,85 105)
85 7B-G	5P 7B-G	“ G” Nozzle assembly (include 85 108,85 105)
85 7B-N	5P 7B-N	“ N” Nozzle assembly (include 85 108,85 105)
85 108	5P 108	Nozzle O-ring
85 167	5P 167	Baffle retaining ring
85 266	5P 266	Baffle
85 501	5P 501	Air cap body
85 515	5P 515	Aspirator o-ring
85 516	5P 516	Siphon plug o-ring
85 519	5P 519	Sleeve
85 575	5P 575	Nozzle nut
85 576	5P 576	Air cap
85 577	5P 577	Air bleeder cap
85 585	5P 585	Siphon plug assembly (include 85 01,85 167,85 266,85 515,85 516 and 85 519)

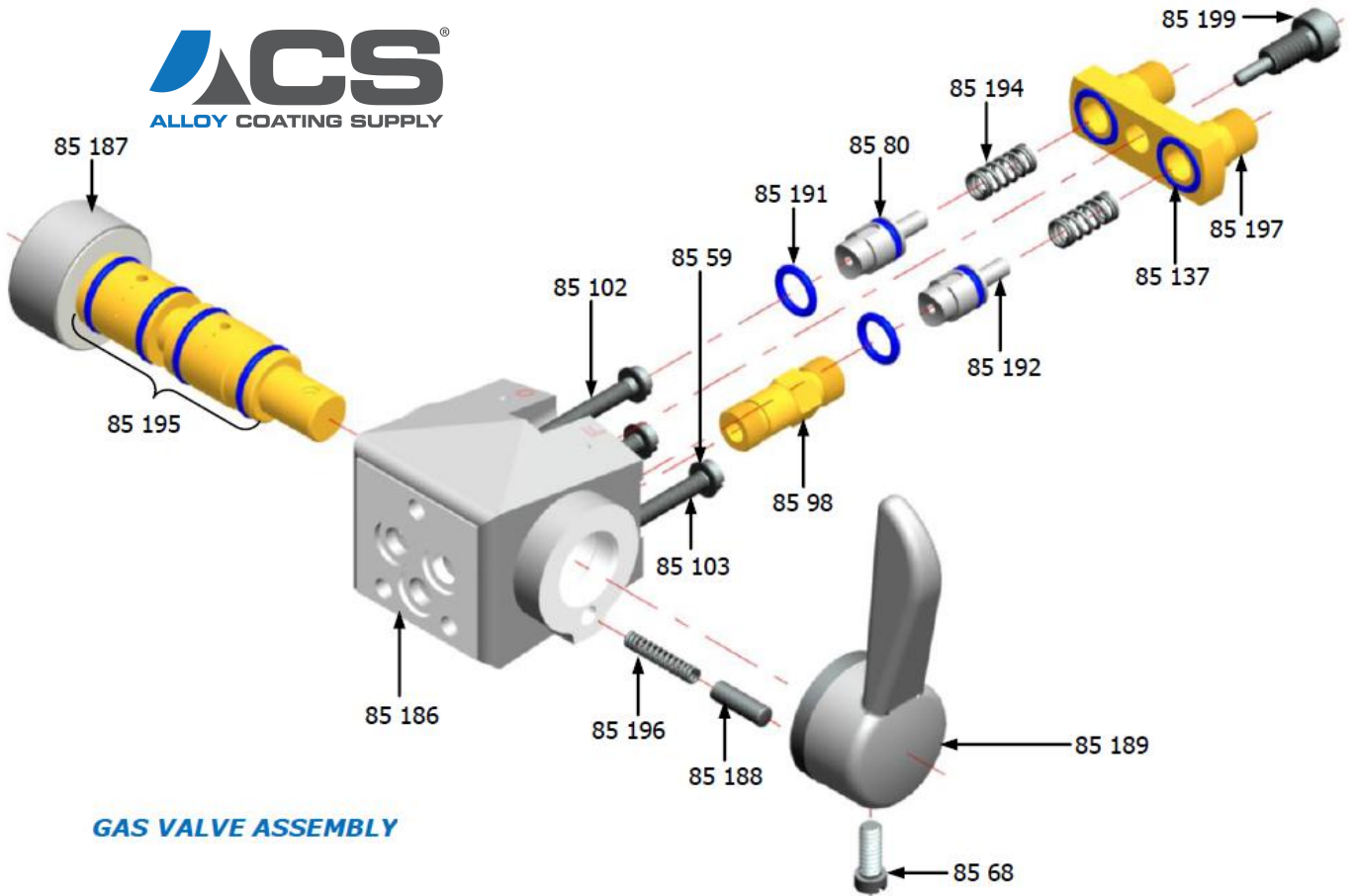
POWDER FLOW CONTROL VALVE AND RELATED PARTS		
85 38	5P 38	Dial plate
85 39	5P 39	Retainer
85 41	5P 41	Retainer screw
85 135	5P 135	Knob stem O-Ring
85 137	5P 137	Control valve body O-Ring
85 541	5P 541	Knob set screw
85 552	5P 552	Valve knob
85 526	5P 526	Flow control valve assembly
85 63	5P 63	Flow Control valve screw



ACS PART No.	OEM PART No.	GENERAL DESCRIPTION
CANISTER ASSEMBLY		
85 66	5P 66	Canister clamp handle
85 91	5P 91	U-Cup
85 581	5P 581	Canister
85 590	5P 590	Canister cover

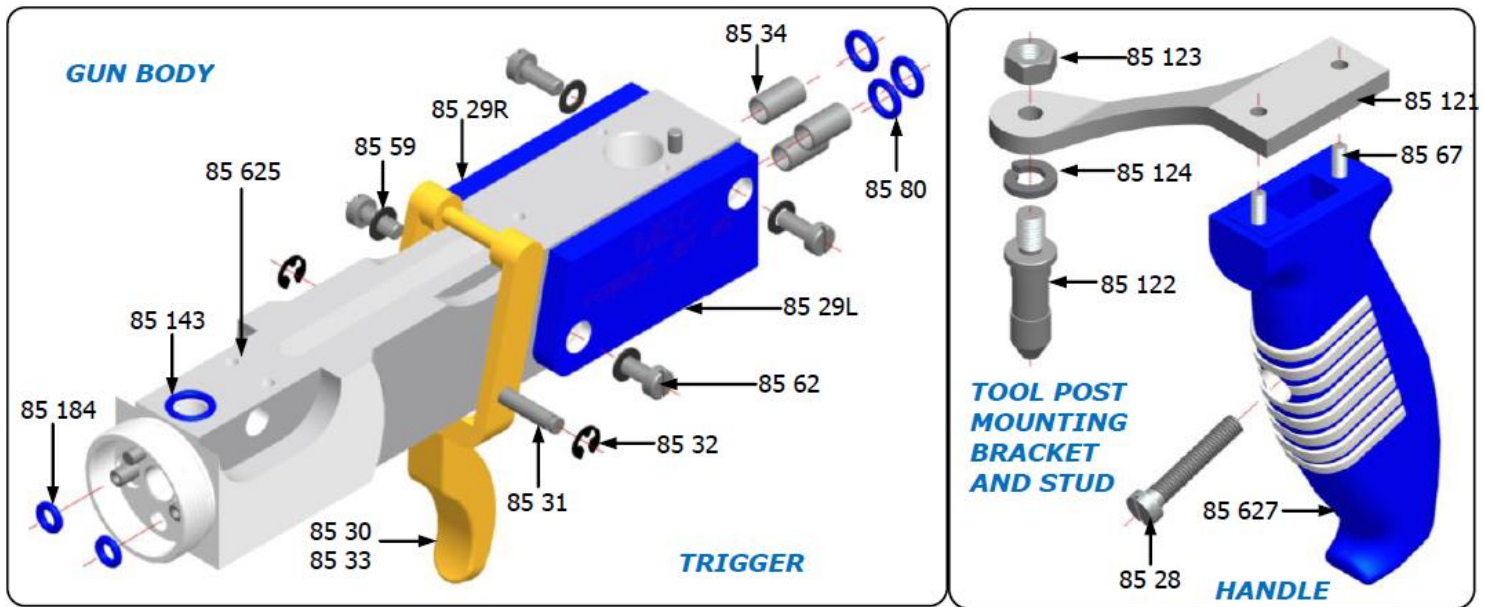
METERING VALVE AND RELATED PARTS		
85 08-11	5P 08-11	Metering valve assembly #11
85 08-12	5P 08-12	Metering valve assembly #12
85 08-15M	5P 08-15M	Metering valve assembly #15
85 135	5P 135	O-Ring
85 141	5P 141	Valve tube

VALVE BOLT HOUSING AND RELATED PARTS		
85 36	5P 36	Detent pin
85 37	5P 37	Detent spring
85 40	5P 40	Valve bolt
85 42	5P 42	Retaining ring
85 43	5P 43	Pawl
85 44	5P 44	Pawl spring
85 45	5P 45	Pawl pin
85 46	5P 46	Bolt housing
85 47	5P 47	Bolt housing pin
85 49	5P 49	Bolt housing mounting screw-back
85 50	5P 50	Override bar
85 51	5P 51	Override spring
85 53	5P 53	Ratchet
85 64	5P 64	Bolt housing mounting screw-front
85 69	5P 69	Retaining screw

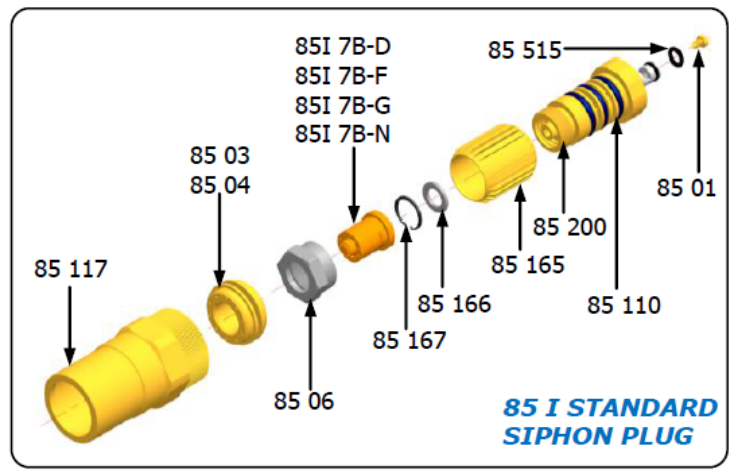
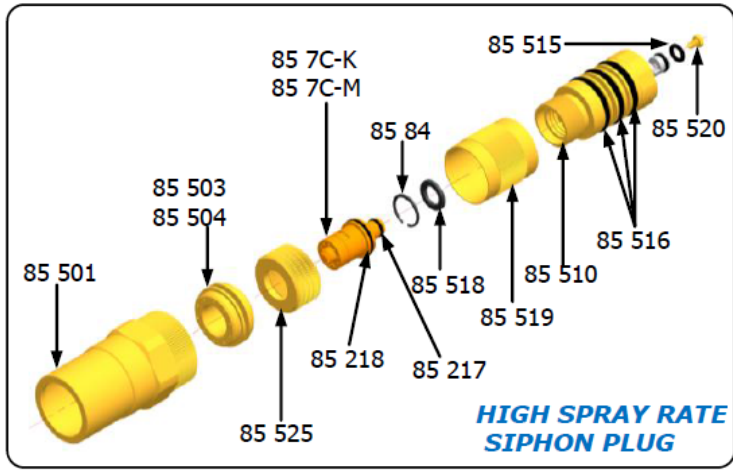


GAS VALVE ASSEMBLY

ACS PART No.	OEM PART No.	GENERAL DESCRIPTION
GAS VALVE ASSEMBLY AND RELATED PARTS		
85 05	5P 05	Gas valve assembly (includes all parts shown except 85 59, 85 102, 85 103)
85 59	5P 59	Lock washer
85 68	5P 68	Valve handle screw
85 80	5P 80	Plunger O-Ring
85 98	5P 98	Air hose connection
85 99	5P 99	Air hose connection cap
85 102	5P 102	Gas valve mounting screw
85 103	5P 103	Gas valve mounting screw
85 137	5P 137	Connection block O-Ring
85 186	5P 186	Valve block
85 187	5P 187	Valve core
85 188	5P 188	Detent pin
85 189	5P 189	Valve handle
85 191	5P 191	Plunger seal O-Ring
85 192	5P 192	Plunger
85 194	5P 194	Plunger spring
85 195	5P 195	Valve core O-Ring
85 196	5P 196	Detent pin spring
85 197	5P 197	Hose connection block
85 199	5P 199	Connection block mounting screw



ACS PART No.	OEM PART No.	GENERAL DESCRIPTION
GUN BOBY AND TRIGGER		
85 29R		Name plate right
85 29L		Name plate left
85 30	5P 30	Trigger
85 31	5P 31	Trigger pin
85 32	5P 32	Retainer ring
85 33	5P 33	Trigger spring
85 34	5P 34	Gas connecting tube
85 59	5P 59	Lock washer
85 62	5P 62	Plate mounting screw
85 80	5P 80	Connecting tube O-Ring
85 143	5P 143	Air seal O-Ring
85 184	5P 184	Gas tube O-Ring
85 625	5P 625	Gun body assembly
HANDLE ASSEMBLY		
85 28	5P 28	Handle assembly screw
85 67	5P 67	Handle mounting screw
85 627	5P 627	Handle
TOOL POST MOUNTING BRACKET AND STUD ASSEMBLY		
85 121	5P 121	Tool post bracket
85 122	5P 122	Mounting stud
85 123	5P 123	Nut
85 124	5P 124	Lock washer



ACS PART No.	OEM PART No.	GENERAL DESCRIPTION
HIGH SPRAY RATE SIPHON PLUG AND RELATED PARTS		
85 7C-K	5P 7C-K	“ K” nozzle assembly (include 85 217, 85 218)
85 7C-M	5P 7C-M	“ M” nozzle assembly (include 85 217, 85 218)
85 84	5P 84	Baffle retaining ring
85 217	5P 217	O-Ring
85 218	5P 218	O-Ring
85 501	5P 501	Air cap body
85 503	5P 503	Air cap (pinch-cool)
85 504	5P 504	Air cap(gun-cooling)
85 510	5P 510	Siphon plug assembly(include 85 84, 85 515, 85 516, 85 518, 85 519, 85 520)
85 514	5P 514	Siphon plug & nozzle spare parts package
85 515	5P 515	Aspirator O-Ring
85 516	5P 516	Siphon plug O-Ring
85 518	5P 518	Baffle
85 519	5P 519	Sleeve
85 520	5P 520	Aspirator jet screw
85 525	5P 525	Nozzle nut
85 I SIPHON PLUG AND RELATED PARTS		
85 01	5P 01	Aspirator jet screw
85 03	5P 503	Air cap (pinch-cool)
85 04	5P 504	Air cap(gun-cooling)
85 06	5P 06	Nozzle nut
85I 7B-D	5PI 7B-D	“ D” nozzle
85I 7B-F	5PI 7B-F	“ F” nozzle
85I 7B-G	5PI 7B-G	“ G” nozzle
85I 7B-N	5PI 7B-N	“ N” nozzle
85 515	5P 515	Aspirator O-Ring
85 110	5P 110	Siphon plug O-Ring
85 117	5P 117	Air cap body
85 165	5P 165	Sleeve
85 166	5P 166	Baffle
85 167	5P 167	Baffle retaining ring
85 200	85 200	Siphon plug assembly (include 85 01, 85 515, 85 110, 85 165, 85 166, 85 167)

TOOL POST FIXTURE, TOOLS & LUBRICANTS

ACS PART No.	OEM PART No.	GENERAL DESCRIPTION
REPLACEMENT PARTS-TOOL AND LUBRICANTS		
85 101	5P 101	Spark lighter
85 105	5P 105	Screw driver
85 106	5P 106	Adjustable Open-End wrench
85 111	5P 111	Valve lube
85 114	5P 114	Cleaning wire kit
85 115	5P 115	Cleaning brush
85 119	5P 119	Powder lube
85V 17	5PV 17	Vibrator unit mounting screw
85V 110	5PV 110	Complete vibrator assembly

ACS PART No.	OEM PART No.	GENERAL DESCRIPTION
REPLACEMENT PARTS-TOOL POST FIXTURE		
85 125	5P 125	Tool post fixture body
85 126	5P 126	Tool post cross bar
85 127	5P 127	Cross bar nut
85 128	5P 128	Cross bar lock washer
85 129	5P 129	Cross bar washer
85 130	5P 130	Clamp screw
85 164	5P 164	Retaining ring pliers

ADDITIONAL PARTS		
PRODUCTION HOPPER		
85 70		Production hopper assembly
85 71		Hopper
85 72		Hopper cover
85 73		Hopper O-Ring
85 74		Hopper clamp screw

HOSE REPLACEMENT PARTS		
85 140		Twin oxygen & acetylene hose assembly
85 144		Nut- oxygen or air hose (gun end)
85 145		Nut- oxygen or air hose (regulator end)
85 146		Nut- acetylene hose (gun end)
85 147		Nut- acetylene hose (regulator end)
85 157		Air hose assembly

VIBRATOR UNIT

The vibrator unit makes it possible to spray a wider range of powders with the Powderjet 85 gun. It is an electrically powdered attachment, which vibrates the gun so as to make the powders flow freely and feed reliably. Installation is simple. The vibration is factory adjusted and required practically no maintenance. It operates on alternating current only. The vibrator unit consists of a step down transformer and a vibrator, which is fastened to the gun. The vibrator operates on 10 volts ac for greatest safety from electrical shock. It is equipped with a pigtail style electrical connection. The vibrator unit is required when spraying ceramic and fine metal powders.

Installation

1. This unit should be used only on the line voltage marked on the side of the transformer. Transformers are available for either 200/250 volts, 50-60 Hz AC only. If in doubt about the line voltage, check with the power company before connecting.
2. Mount the transformer in any convenient location where the 5m-output cord from the transformer will reach the gun in all spraying positions. If possible, place the transformer so that its line cord, which is 2m long, will reach a regular convenience outlet. In some cases, an extension cord may be necessary to reach from the nearest outlets to the transformer. Fasten the transformer with screws or bolts to any convenient surface.
3. Latch back the trigger of the powderjet-85 gun. With the switch towards the trigger, attach the vibrator unit securely to the bottom surface of the gun body using the four screws provided. Two of the screws are held captive in the vibrator base. Two more are packaged in a plastic envelope.

Slip the cable clamp onto the electrical connector at the end of the vibrator pigtail. Sandwich the cable clamp ends between the two washers and screw the assembly to the mounting stud. To protect the connector, orient the cable clamp so that it lies over the gun bracket when mounted.

Operation

Connect the output cord from the transformer to the vibrator cable receptacle v12 plug the input cord on the transformer into any convenient outlet of the proper voltage. Power is supplied to the transformer by pressing its switch button. With power to the transformer, latching and unlatching the gun trigger will start and stop the vibrator by operating. When mount in the vibrator base. Light and operate the gun according to the instructions in this manual. When shutting down, shut off the transformer by pushing the transformer switch or disconnecting the line cord.

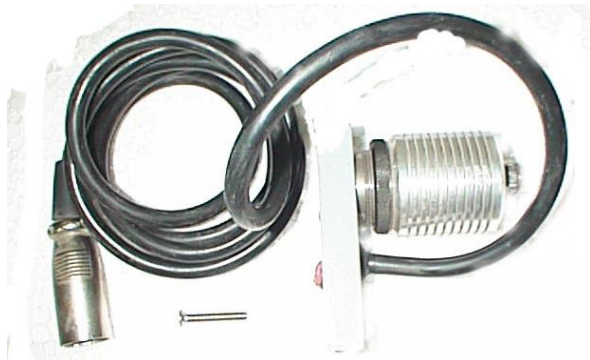
Maintenance

The vibrator has been factory adjusted for best operation. No further adjustment should be required. If readjustment should become necessary, loosen the cap V3 and back off the locknut V2 on the body of the vibrator. With vibrator power on, screw the cap in until the vibration stops. Then back off the cap until maximum vibration is obtained. This is not a critical adjustment. With the cap properly positioned, run the locknut up against the bottom of the cap and wrench the cap so it jams against the locknut.

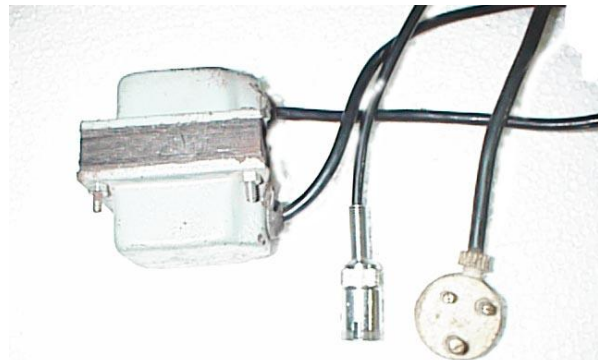
To disassemble the armature V5, loose and remove cap V3, loosen stop nut V7. Screw the armature out. To replace damper V4, force it out of the cap, and push a replacement into position. To re-assemble the armature, screw the armature through the rubber damper, place spacer V47 on the armature stud and screw the stop nut V7 down on the stud until it just makes up on spacer V47, then tighten the stop nut 1/8 to 1/4 turn more. This adjustment is not critical.

Do not oil any part of the vibrator unit. A litter powder lube on the threads will prevent galling.

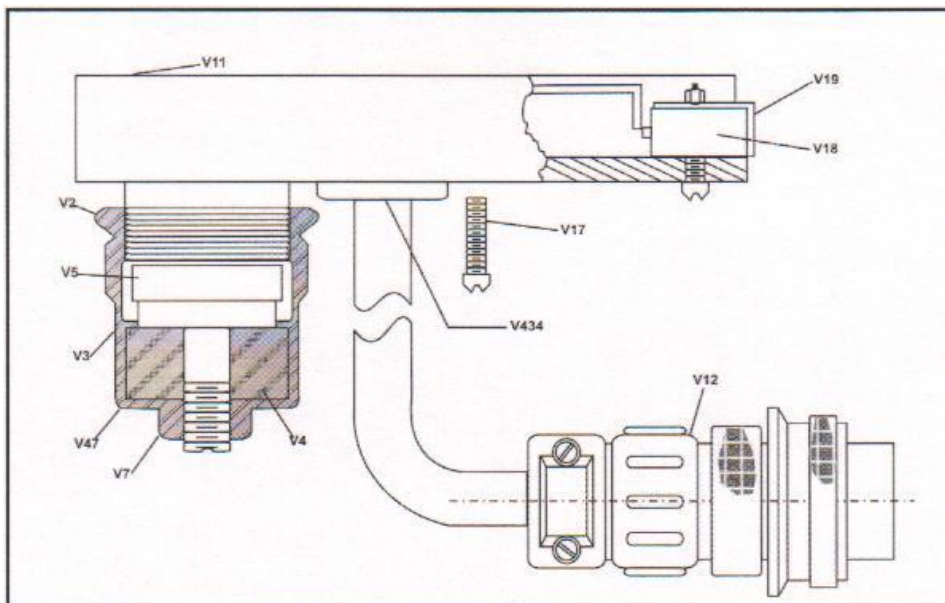
Be sure you use the unit only on the voltage marked on this transformer case. For line voltages other than 115 or 230, obtain a 25-watt step-down transformer from your local electrical supply house.



VIBRATORY



TRANSFORMER



VIBRATOR REPLACEMENT PARTS LIST

V2	LOCK NUT	V35	CABLE CLAMP PACKAGE
V3	CAP	V36	CABLE CLAMP (not shown)
V4	CAMPER	V37	CABLE CLAMP SCREW (not show)
V5	ARMATURE	V38	WASHER (pkg. of 5) (not shown)
V7	STOP NUT	V45	TRANSFORMER 230V (not shown)
V10	VIBRATOR ASSY (including all parts listed except transformer, cable & cable clamp parts)	V47	SPACER
V11	COIL ASSY (including V12, V18, V19 & V434)	V64	TRANSFORMER OUTPUT CABLE PLUG (not shown)
V12	VIBRATORY CABLE RECEPTACLE	V434	STRAIN RELIEF BUSHING
V17	VIBRATOR UNIT MOUNTING SCREW (package of 5)	V19	SWITCH ACTUATOR ASSY (including switch mounting screws, nuts & lock washers)
V18	SWITCH		

FIG. 8 (B) VIBRATOR ASSEMBLY

COOLING VENT ASSEMBLY

General

The Cooling vent system is an attachment for use on the Powderjet 85 Thermo spray gun. It injects high velocity air blast to produce denser, harder ceramic coatings & denser, low- oxide metal coatings, with less dependence on special operating techniques.

This cooling vent consists of two air nozzles, each held in a pivot block, which is mounted in a supporting head frame. Two short air hoses connect to the air nozzles at one end & to a wye connection at their opposite end. A long air hose is provided for connecting the wye to a source of compressed air.

Each pivot block contains a position indicator plate for setting the position of its air nozzle, & a clamp screw for locking it into the selected position.

Installation

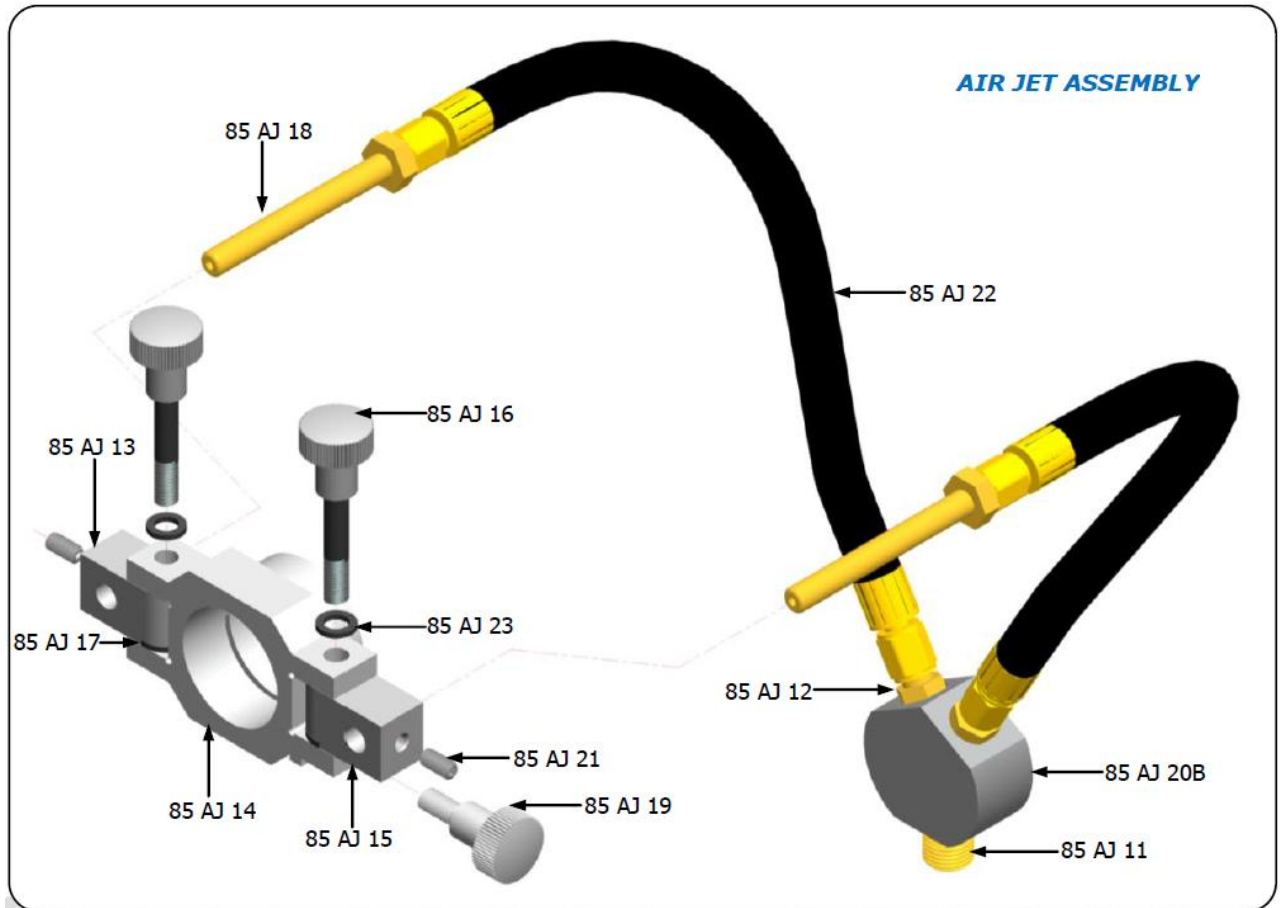
Slide the 85CV-25 air jet head over the end of the gun air cap body, with the hose connections of the 85CV-30 air nozzle toward the rear end of the gun. Push the head firmly against the shoulder of the air cap body & clamp it on with 85CV-34-thumb screw, tightening just enough to hold the assembly in place. When unclamped the head can be rotated on the gun air cap body. Select the position most convenient for spraying. Connect 85CV-40 short hoses to the air nozzles. Connect the air hose to the large fitting on the 85CV-35 wye & to a source clean, dry, pressure-regulated, compressed air. Operating pressure may range from 15 psi to 90 psi, depending on the size & shape of the work piece, the kind of powder being sprayed & the required coating. A suitable air control unit, including filter, gauge & outlet valve.

Operation

Set the position of pivot blocks 85CV-24 & 85CV-26 so that the jets from the air nozzles converge in front of the gun nozzle. Positioning the pivot blocks to 'B' on the indicator plates will provide the most frequently recommended intersect distance. This can be checked with air turned off, by sliding a 1/8 inch diameter drill in each air nozzle bore & measuring the distance from the gun nozzle tip to the point where the drills cross each other. With the jet air flowing, adjust the air pressure to the value given in the chart. Light the gun in the usual way. It can be lighted with the air turned on or the air can be turned on after lighting.

CAUTION: Excessive delay in turning on the air after lighting may result in damage to the nozzles.

PARTS LIST OF COOLING VENT



ACS PART No.	OEM PART No.	GENERAL DESCRIPTION
REPLACEMENT PARTS-AIR JET ASSEMBLY		
85 AJ 11		Hose connector
85 AJ 12		Hose connector
85 AJ 13		Pivot block- right
85 AJ 14		Air jet head
85 AJ 15		Pivot block- left
85 AJ 16		Clamp screw
85 AJ 17		Clamp nut
85 AJ 18		Air nozzle
85 AJ 19		Thumb screw
85 AJ 20B		Wye only
85 AJ 20		Wye (include 85 AJ 11, 85 AJ 12)
85 AJ 21		Set screw
85 AJ 22		Air nozzle hose
85 AJ 23		Clamp screw washer
85 AJ 24		Air hose (15 ft)
85 AJ 25		Allen wrench