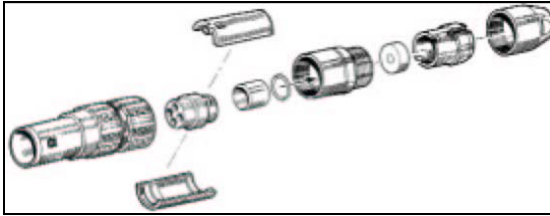
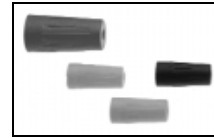


JKX PLUG ASSEMBLY INSTRUCTIONS



Straight Plug Assembly

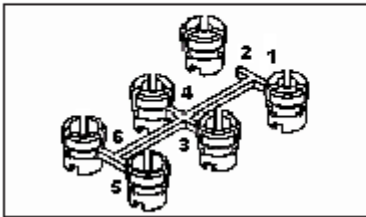


Protective Boot

1. Determine what size cable you will be using. Then select the proper collet number for that cable.

• Collets selection according to cable diameter

3 or 5 collets per shell size allow a wide range of cable diameters for a single connector. Cable out diameters are for information only, since values will change with each cable construction.

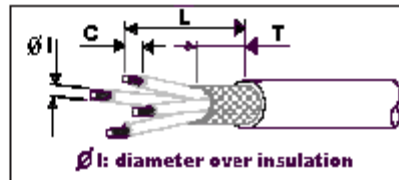


| Collet number | Cable Diameter | | | |
|---------------|----------------|------------------|--------------|------------------|
| | Shell size 0 | Size 0, option G | Shell size 1 | Size 1, option G |
| 1 | 1.5 - 2.5 | — | 2 - 2.5 | — |
| 2 | 2.6 - 3.5 | — | 2.6 - 3.5 | — |
| 3 | 3.6 - 4.5 | — | 3.6 - 4.5 | 6.1 - 6.7 |
| 4 | — | 4.6 - 5.5 | 4.6 - 5.5 | 6.8 - 7.7 |
| 5 | — | 5.6 - 6 | 5.6 - 6 | 7.8 - 8 |

Collet number 4 in shell size 0 and collet number 6 in shellsize 1 are not used

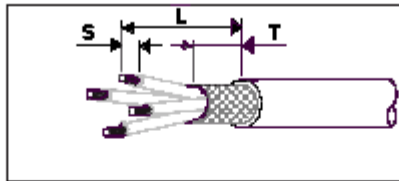
2. Strip the cable and each wire to the required strip length.

Cable stripping for connectors with crimp contacts



| Shell size | Ø Contacts | Ø I | Stripping for FD/PC | | |
|------------|------------|-------|---------------------|-----|---|
| | | | L | C | T |
| 0 | 0.7 | ≤1.35 | 15 | 4 | 7 |
| | | >1.35 | | 5.5 | |
| | 0.9 | ≤1.6 | 15 | 4 | 7 |
| | | >1.6 | | 5.5 | |
| 1 | 0.7 | ≤1.35 | 17 | 4 | 8 |
| | | >1.35 | | 5.5 | |
| | 0.9 | ≤1.6 | 17 | 4 | 8 |
| | | >1.6 | | 5.5 | |
| | 1.3 | ≤2.1 | 17 | 4 | 8 |
| | | >2.1 | | 5.5 | |

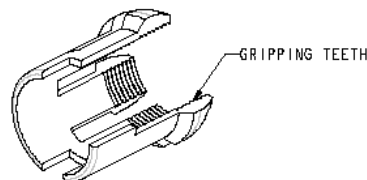
Cable stripping for connectors with solder contacts



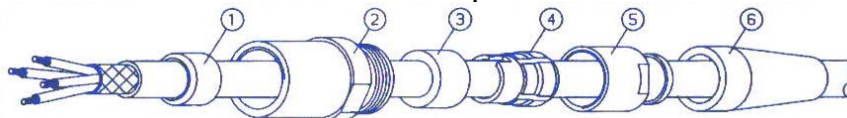
| Shell size | Ø Contacts | Stripping for FD / PC | | |
|------------|------------|-----------------------|-----|---|
| | | L | S | T |
| 0 | 0.5 | 11 | 2 | 7 |
| | 0.7 | 12 | 3 | 7 |
| | 0.9 | 12 | 3 | 7 |
| 1 | 0.5 | 13 | 2 | 8 |
| | 0.7 | 14 | 3 | 8 |
| | 0.9 | 14 | 3 | 8 |
| | 1.3 | 14 | 3.5 | 8 |

3. When assembling a plug with a protective boot, prep the cable by taking the protective boot (#6) and sliding it with the small inside diameter first onto the cable. Then slide the small diameter end of the back nut (#5) onto the cable. Next, take the collet (#4) and slide the end with the gripping teeth (See below) first onto the cable. Then take a cable gland (#3) and slide it onto the cable. Once the cable gland is in place take an outer shell (#2) and slide it onto the cable with the outside threads going onto the cable first. Then take the flat end of a taper seat (#1) and slide that onto the cable so that the chamfer side is pointing outward.

Collet



Connector Preparation



4. Attach removable contacts to wires:
 - a. If using crimped contacts, crimp the contacts onto the ends of the exposed wires using the proper crimping tool set on the correct AWG wire size. After the contact has been crimped to the wire, check each contact to insure that the contact is securely crimped to the wire.

Crimping Tool



Specifications MIL-C-22520 / 7.01

| Contacts 0.7 mm - 0.9 mm and 1.3 mm | MIL P/N - SOURIAU P/N | Supplier P/N |
|-------------------------------------|-----------------------|---------------------------------------|
| | MIL-22520/7-01 | Daniels : MH860 Buchanan : 616 336 |

Specifications MIL-C-22520 / 1.01

| Contacts 1.6 mm and 2 mm | MIL P/N - SOURIAU P/N | Supplier P/N |
|--------------------------|-----------------------|-------------------------------------|
| | MIL-22520/1-01 | Daniels : AF8 Buchanan : 615 708 |

Locator Pin and Socket .07-.09 mm and 1.3 mm contacts



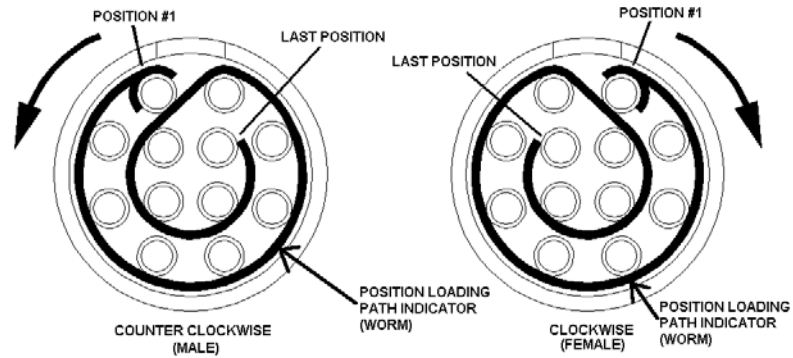
| Shell size | Ø contacts | AWG | Male contact | | | Female contact | | |
|------------|------------|--------------|----------------|-------------|-----------|----------------|-------------|-----------|
| | | | SOURIAU P/N | DANIELS P/N | ASTRO P/N | SOURIAU P/N | DANIELS P/N | ASTRO P/N |
| 0 | 0.7 | 22 - 24 - 26 | JBX 0 OUT LP07 | 86 - 223 | / | JBX 0 OUT LS07 | 86 - 224 | / |
| | 0.9 | 20 - 22 - 24 | JBX 0 OUT LP09 | 86 - 225 | / | JBX 0 OUT LS09 | 86 - 226 | / |
| 1 | 0.7 | 22 - 24 - 26 | JBX 1 OUT LP07 | 86 - 196 | 642 - 001 | JBX 1 OUT LS07 | 86 - 197 | 642 - 004 |
| | 0.9 | 20 - 22 - 24 | JBX 1 OUT LP09 | 86 - 198 | 642 - 002 | JBX 1 OUT LS09 | 86 - 199 | 642 - 005 |
| | 1.3 | 18 - 20 - 22 | JBX 1 OUT LP13 | 86 - 200 | 642 - 003 | JBX 1 OUT LS13 | 86 - 201 | 642 - 006 |
| 2 | 0.7 | 22 - 24 - 26 | JBX 2 OUT LP07 | 86 - 202 | 642 - 007 | JBX 2 OUT LS07 | 86 - 203 | 642 - 010 |
| | 0.9 | 20 - 22 - 24 | JBX 2 OUT LP09 | 86 - 204 | 642 - 008 | JBX 2 OUT LS09 | 86 - 205 | 642 - 011 |
| | 1.3 | 18 - 20 - 22 | JBX 2 OUT LP13 | 86 - 206 | 642 - 009 | JBX 2 OUT LS13 | 86 - 207 | 642 - 012 |
| 3 | 0.7 | 22 - 24 - 26 | JBX 3 OUT LP07 | 86 - 217 | 642 - 014 | JBX 3 OUT LS07 | 86 - 214 | 642 - 017 |
| | 0.9 | 20 - 22 - 24 | JBX 3 OUT LP09 | 86 - 218 | 642 - 015 | JBX 3 OUT LS09 | 86 - 215 | 642 - 018 |
| | 1.3 | 18 - 20 - 22 | JBX 3 OUT LP13 | 86 - 219 | 642 - 016 | JBX 3 OUT LS13 | 86 - 216 | 642 - 019 |

Turret with locator for pin and socket 1.6 mm and 2 mm contacts



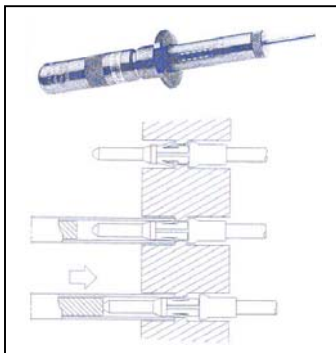
| Shell size | Ø contacts | AWG | Male and female contacts | | |
|------------|------------|--------------|--------------------------|-------------|-----------|
| | | | SOURIAU P/N | DANIELS P/N | ASTRO P/N |
| 2 | 1.6 | 14 - 16 - 18 | JBX 2 OUT LT16 | TH 564 | 650 - 030 |
| | 2 | 12 - 14 - 16 | JBX 2 OUT LT20 | TH 565 | 650 - 031 |
| 3 | 1.6 | 14 - 16 - 18 | JBX 3 OUT LT16 | TH 566 | 650 - 038 |
| | 2 | 12 - 14 - 16 | JBX 3 OUT LT20 | TH 567 | 650 - 035 |

- b. If using soldered contacts, prep each wire with flux and then tin dip each exposed wire end. Next pre-load a piece of heat shrink onto the wire (Individual heat shrink tubes are optional). Solder each wire to the solder cup end of the contact. To avoid shorts, make sure that no solder comes in contact with any other contact or wire on the connector. After the contact has been soldered to the wire, check each contact to insure that the contact is securely soldered to the wire. Slide the pre-loaded heat shrink over the solder joint and shrink into place. Do not over-heat the solder joint area as it can cause the solder to re-flow or it could burn the wire insulation.
5. If inserting removable contacts:
 - a. Starting with the interface end of the contact, carefully insert each contact into the backside of the insulator that has the position loading path indicator (worm) on it. Start with the end of the position loading path indicator (worm) that has the half circle on it (Position #1). Then follow the position loading path indicator (worm) around the insulator. You will go counter clockwise if using a male contact and clockwise if using a female contact (see diagram below for the position loading path indicator (worm) layout). If the connector has center contacts, it is sometimes easier to start at the end of the position loading path indicator (worm) (last position) and work backwards. This is up to the assembler and the process they are using to insert the contacts. Make sure not to bend the contact when inserting it into the insulator. It is extremely important that the contact is completely seated in to the insulator. For the connector to function properly, the contact should click/snap into place when seated. To confirm the seating of the contact, check each contact for proper seating.



6. Removal of Contacts:

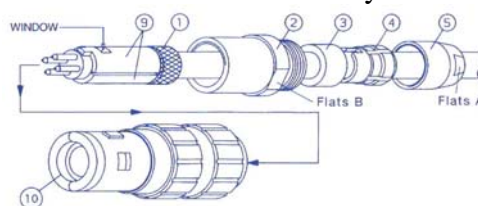
- a. Using the proper extraction tool insert the tool over the front of the contact and push contact out. Failure to use the proper extraction tool can result in damage to the contact.



| Shell size | Ø Contacts | SOURIAU Part number | ASTRO Part number |
|------------|------------|---------------------|-------------------|
| 0 | 0.7 | JBX OUT DC 07 | ATJP 2045 |
| | 0.9 | JBX OUT DC 09 | ATJP 2057 |
| 1 | 0.7 | JBX OUT DC 07 | ATJP2045 |
| | 0.9 | JBX OUT DC 09 | ATJP 2057 |
| 2 | 1.3 | JBX OUT DC 13 | ATJP 2077 |
| | 0.7 | JBX OUT DC 07 | ATJP 2045 |
| | 0.9 | JBX OUT DC 09 | ATJP 2057 |
| | 1.3 | JBX OUT DC 13 | ATJP 2077 |
| | 1.6 | JBX OUT DC 16 | ATJP 2095 |
| 3 | 2.0 | JBX OUT DC 20 | ATJP 2115 |
| | 0.7 | JBX OUT DC 07 | ATJP 2045 |
| | 0.9 | JBX OUT DC 09 | ATJP 2057 |
| | 1.3 | JBX OUT DC 13 | ATJP 2077 |
| | 1.6 | JBX OUT DC 16 | ATJP 2095 |
| | 2.0 | JBX OUT DC 20 | ATJP 2115 |

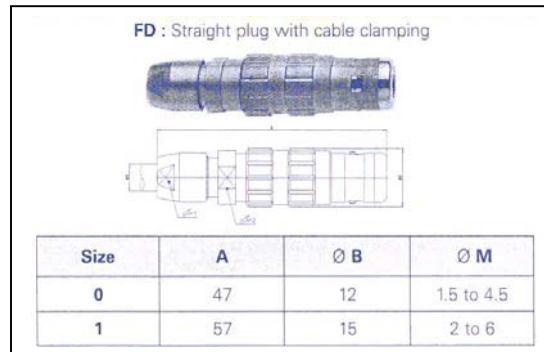
7. Take the keyed half bushing (#9) and place it over the insulator so that the window is lined up with the key on the insulator and the key on the half bushing is pointing to the interface end of the insulator (interface end of connector). Then take the half bushing without the window (#9) and place on the opposite side of the insulator so that both half bushings are aligned with each other.

Connector Assembly









8. Take the contact assembly that is mounted on the cable and using the red dot as a reference, align the slot on the inside of the connector (#10) with the keys on the end of the half bushings (you may need to spin the assembly slightly). Insure that the keys are seated properly by turning the insulator and contact assembly. If the assembly does not turn, then the keys are correctly aligned. If the assembly does turn, then you must withdraw the assembly & realign the keys.
9. Then push the preloaded taper seat (if a shielded cable is being used, comb out the shielding and fold back over the taperseat) and outer shell into the connector housing and thread the outer shell into the housing until it is hand tight and you can feel the o-ring being compressed.

10. Once the outer shell is installed onto the connector housing, apply thread lock to thread area. Then slide the cable glade (#3) collet (#4) and back nut (#5) up until you can manually start the back nut threads onto the threaded end of the connector housing. Tighten the back nut up as far as you can by hand, then take the appropriate wrenches and place the wrenches onto the “A” & “B” flats located on the connector housing. Do not over torque back nut as it can cause connector failure. (See torque requirements listed below)



Coupling Torques

| Advised torque* in Nm | | | | |
|---|-----|-----------------|-----|-----------------|
| Size | 0 | 0 (option G) | 1 | 1 (option G) |
|  | 1.6 | / | 1.8 | / |
|  1 | 1.5 | 2 | 2 | 2.5 |
|  2 | 0.8 | 0.8 | 1 | 1 |

| Tools (jaw dimensions) | 14 x 1 | | 16 x 1 | |
|---|--------|-----------------|--------|-----------------|
| Size | 0 | 0 (option G) | 1 | 1 (option G) |
|  | 17 | | 19 | |
|  1 | 8 | 10 | | 13 |
|  2 | 10 | 11 | 12 | 14 |

11. If the connector requires a protective boot, slide the boot over the lip on the back nut.

Trouble shooting

| Problem: | Cause: | Correction: |
|--|--|---|
| Contact will not seat in connector, contact backing out. | Wrong wire or insulation size, wrong strip length, poor crimping, broken clips, damaged insulator, removed contact without proper removal tool, bad crimp. | Use correct wire, adjust strip length, strip and re-crimp with new contact, replace insulator, using wrong crimp tool, replace contact. |
| Bent solder contact | Bent in handling, bent in soldering operation, connector assembled incorrectly. | Replace with new insert and/or contacts. |
| | Pins and insulator were inserted into electrical test while unprotected by shell | |
| Connector will not release from mating part or operate correctly | Not using flats on latching sleeve and back nut to torque connector, improper assembly of the connector, over mold material inside connector. | Release back nut and re-torque, disassemble and reassemble, replace connector. |
| Over tightened the back nut. | Connector will not release from mating part or operate correctly, damage connector. | Loosen back nut and retighten. |
| Collet will not grip cable. | Loose cable in connector. | Check correct collet size is being used. |
| Connector will not assemble. | Incorrect alignment of key in connector, half bushings, connector housing, insulator, collet, braid in key slots in collet. | Disassemble connector and reassemble connector-aligning keys, relocate braid in collet. |
| Contact stubbing after mating. | Bent contact and damaged contact, connector-assembled incorrectly. | Re-align contact, replace insert with contacts. |
| Electrical failure. | Improper crimping, wrong wire strip length, wire loading incorrect location, poor solder joint. | Remove contact with correct removal tool, reinstall new contact, and verify strip length. |
| Leakage of seals | Over torque of nut | Disassemble connector and inspect seals. |