



HD20 SERIES TERMINAL CONNECTOR KITS

DEUTSCH™ INDUSTRIAL

TECHNICAL MANUAL



HD Series Connector Features

Deutsch HD/HDP Series environmental connectors offer the advantages of decreased costs and upgraded performance. Designed to withstand years of abuse, the Deutsch HD Series is setting the pace in the Heavy Equipment Industry.

Durability

No electrical or mechanical defects after 100 cycles of engagement or disengagement.

Moisture & Corrosion Resistance

Water does not penetrate seals when submerged in 3 feet of water. Connectors show no evidence of corrosion after exposure to 48 hours of salt spray testing

Fluid Resistance

Connectors show no damage when exposed to most fluids used in industrial applications.

Vibration

Maintains continuity and exhibits no mechanical or physical damage during or while subject to vibration.

DEUTSCH™ HD CONNECTORS



The Deutsch™ HD (Heavy Duty) Connector series was developed with the heavy duty equipment and off highway industry in mind. HD Series connectors are a thermoplastic cylindrical coupling that offers arrangements from 3 to 9 cavities for heavy duty applications. These connectors are easy to install, environmentally sealed and compact in size.

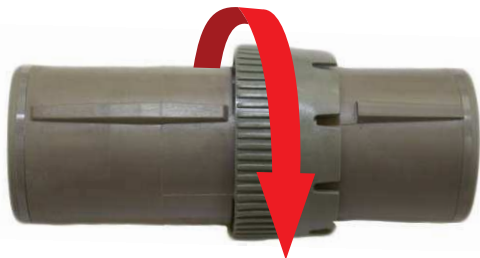
They are a simple, field serviceable alternative to a repair splice. The simplicity of the HD Series Connectors help reduce assembly difficulty, maintenance time, and are built to meet industry standards to provide sustainability in demanding environments.

Serviceable Parts & Tools



NOTE: The CTP Deutsch™ HD Connector Kit does not contain the Crimping Tool. The 1U-5804 Crimping Tool needs to be ordered separately.

To Uncouple a connector



- 1 Uncouple the connector by grasping the locking ring on the plug body and rotate the ring counterclockwise. This action will unlock and rotate the connector bodies apart.



WARNING

DO NOT use tools to uncouple an HD connector! The use of tools could damage the locking ring and therefore prevent re-coupling of the connector

DO NOT pull on the wires to separate the two halves of the connectors. This can cause damage to the connectors and wires.

Contact Terminal Removal



Contacts should be removed from the HD style connectors using the **151-6320 Pin/Socket Extractor Tool** (Included in this kit).

- 1 Snap the extractor tool over the wire of contact terminal to be removed
- 2 Slide tool along into the insert cavity until it engages contact terminal and resistance is felt.
- 3 Pull the contact terminal-wire assembly and removal tool together from the connector body.

Contact Terminal Crimp Procedure



To ensure proper electrical performance, contact terminals must be crimped using the **1U-5804 Crimping Tool**.



DO NOT solder the wires into the contact terminals!

- 1 Cut the end of the wire square and clean.
- 2 Strip 6.4 to 7.0 mm (.25 to .31 in.) of insulation from the wire being careful not to cut or nick the copper wire strands. A properly stripped wire will bottom out in the terminal with the insulation 1.5 mm (.06 in.) from the end of the terminal.
- 3 On the socket terminal, the wire is inserted into the end with inspection hole (A).

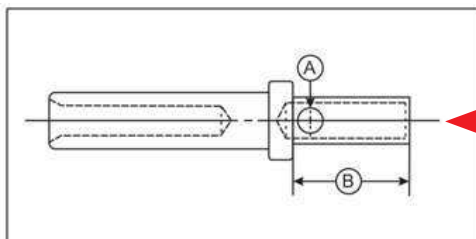
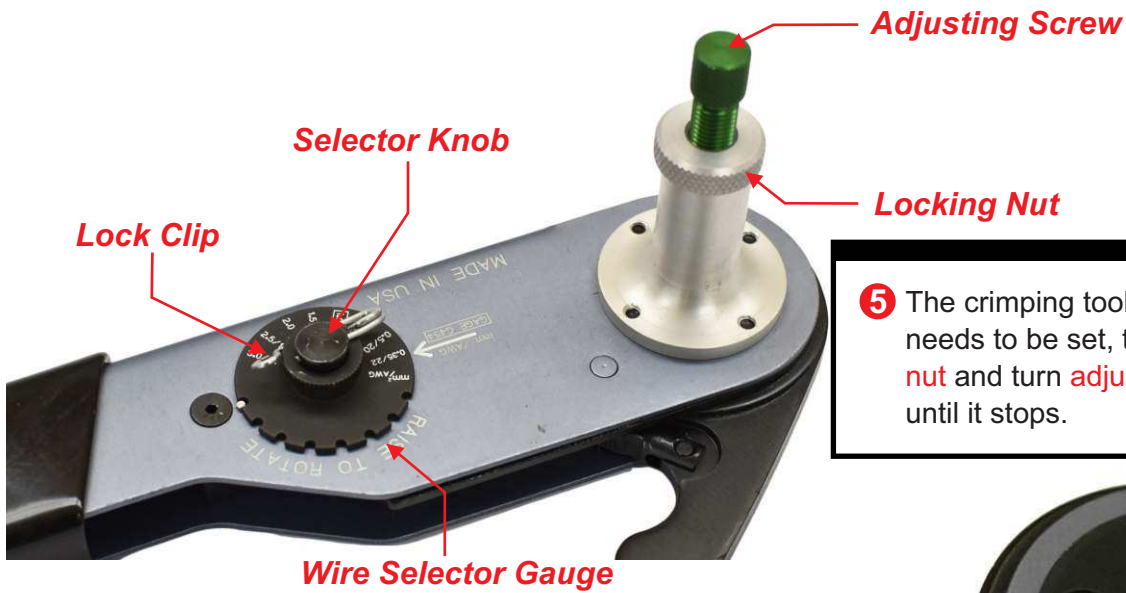


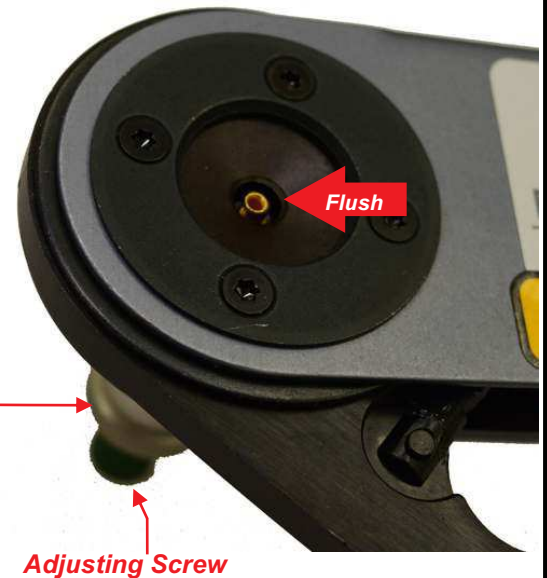
Illustration: shows a cross section of a typical contact terminal (B) Crimp barrel length. (A) Inspection hole

Contact Terminal Crimp Procedure

- 4** Make sure the **wire selector gauge** (image below) on 1U-5804 Crimp Tool is set to the wire size being crimped.



- 5** The crimping tool contact terminal depth needs to be set, to do this; loosen **locking nut** and turn **adjusting screw** clockwise in until it stops.



- 6** Insert new contact terminal as shown in Illustration and turn **adjusting screw** clockwise, until the wire/crimp end of the terminal is flush with the tool face, then tighten **locking nut**.

- 7** Insert the wire into the contact terminal making sure that all wire strands are inside the crimp barrel of the terminal.



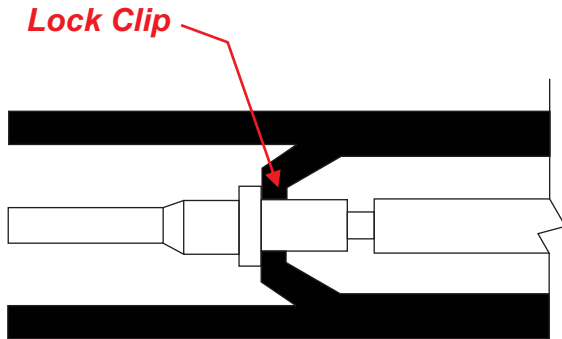
- 8** Squeeze the handles of the crimp tool to crimp the wire onto the contact terminal, when the handles hit the stop the tool will automatically release.

- 9** Remove the crimped contact terminal and inspect to make sure that all wire strands are inside the crimped barrel and that the crimp is centered on the barrel as in illustration.



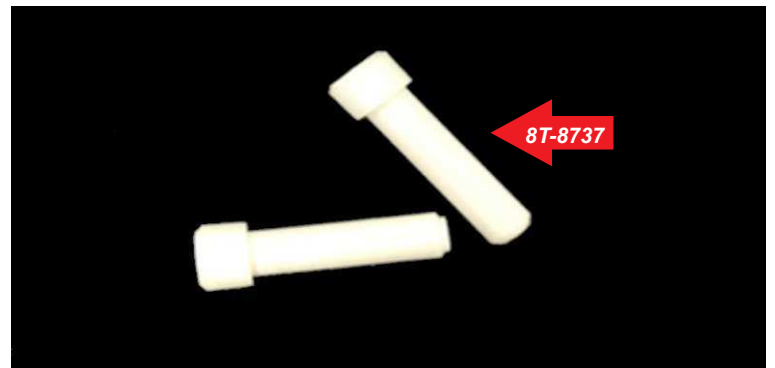
Contact Terminal Insertion

- 1 Grasp the wire approximately 25mm (1.0 in.) from the crimped contact terminal. Insert the terminal into the connector, as shown in Illustration
- 2 Push the terminal straight into the connector until the terminal locks in place. A slight tug on the wire will confirm the terminal is properly locked in place.



This cross section illustration shows how a contact terminal is locked into place

- 3 Insert a sealing plug # 8T-8737 in the rest of the terminal cavities not being used



Connector Cleaning

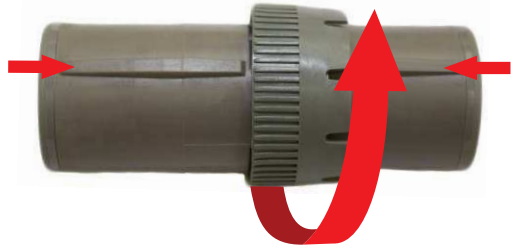
Connectors that have been uncoupled for service purposes must be cleaned before reconnecting. Do not use solvents for cleaning, it is recommended to use denatured alcohol and a cotton swab to clean the interior mating surfaces of the connector, including the terminals, seals, and insulators must also be cleaned using only alcohol.



DO NOT use solvents for cleaning!

Many solvents can damage the connector materials. Solvent-type cleaners are not recommended. It is important that the connector mating surfaces be clean and dry before re-coupling. After cleaning, if any terminals show signs of corrosion, these terminals must be replaced.

Connector Mating



- 1 HD connectors are re-connected by aligning the external marks (red arrows point to these marks in illustration)
- 2 Push the two connector bodies together, while turning the locking ring $\frac{1}{4}$ turn clockwise until the ring clicks into the locked position.

Individual Service Parts

Individual Service Parts for 190-8900 HD Style Field Service Group

Description	Part No.	QTY
Plug Connector (3 PIN)	8T-8731	10
Receptacle, Connector (3 PIN)	8T-8732	10
Plug Connector (5 PIN)	8T-8733	5
Receptacle Connector (5 PIN)	8T-8734	5
Plug Connector (9 PIN)	8T-8735	8
Receptacle Connector (9PIN)	8T-8736	8
Plug Seal	8T-8737	30
Plug Connector	9W-0847	2
Removal Tool, Pin/Socket	151-6320	6
Pin	126-1767	30
Socket	126-1768	30
Pin	9X-3401	30
Socket	9X-3402	30
Receptacle Connector	7X-6195	2