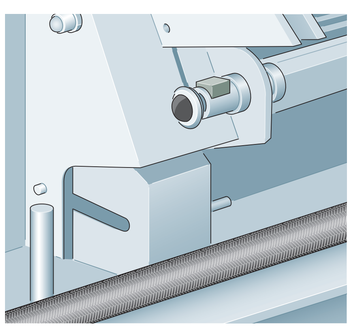
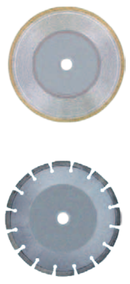
Parker Hose Assemblies

Working Steps for 2-Piece ParLock Fittings

According to DIN EN ISO 4413, hose assemblies are not permitted to be manufactured from any components that have already been in use in other hose assemblies. 2-piece fittings must not be crimped on Parkrimp crimpers – only with free adjustable crimpers.

1. Cutting





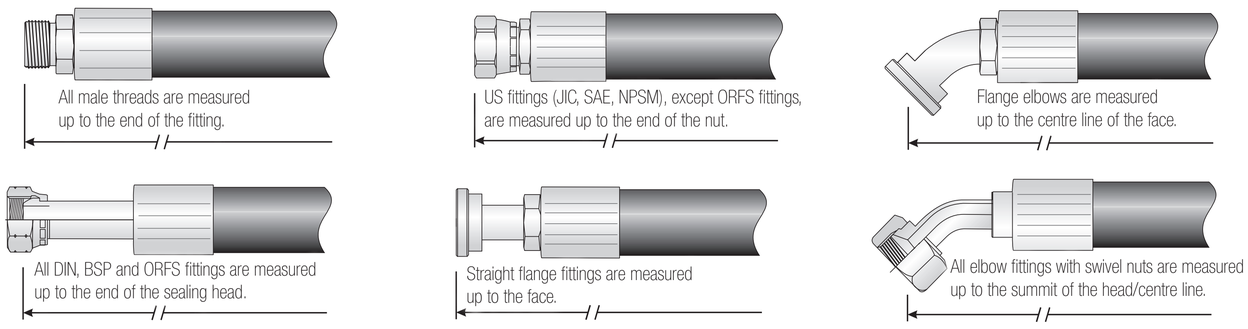
Hose is cut to the desired length according to specifications. The correct hose cutting tool ensures a square, clean cut without damaging the pressure reinforcement. Depending on the hose type, different kinds of cutting blades must be used:

1) Smooth cutting blade:
   for high tensile textile layer, return line hoses and steel wire braided hoses
2) Serrated cutting blade:
   for hoses with 4 or 6 spiral layer of high tensile steel wire

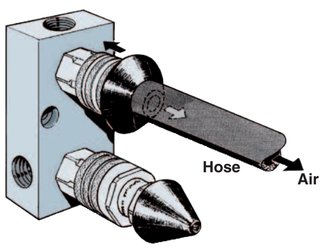
Parker representatives can support you with training or advice !

Tolerances for hose assemblies
Length tolerance according to DIN 20066 Tabelle 6

Hose assembly length (mm)	**Diameter** (mm) ≤ 25	**Diameter** (mm) > 25
up to 630	+7 -3	+12 -4
over 630 up to 1250	+12 -4	+20 -6
over 1250 up to 2500	+20 -6	+25 -6
over 2500 up to 8000	+1,5 % -0,5 %	
over 8000	+3 % -1 %	



2. Cleaning after cutting

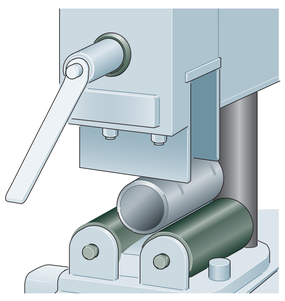


After cutting it is recommended to clean the hose with compressed air from both sides. Please make use of Parker‘s Cleaning System TH6-7

- A quick and simple system
- Delivered with two plastic nozzles for hoses from size -4 up to -32.

The hose is pressed against the nozzle and thereby opens a valve to allow the compressed air to blow through the hose and blow out loose particles.

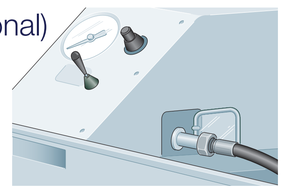
3. Marking



According to EN and ISO standards, hose assemblies must be clearly and permanently marked. They must bear the following information:

- Manufacturer’s identification
- Date of production (year and month)
- Maximum permissible working pressure limit of hose assembly

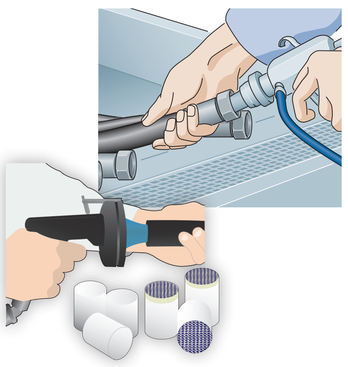
8. Testing (optional)



Static test pressure depending on the hose type and application is applied to the finished hose assembly for a pre-defined period of time. The test procedure can be documented using a test logging unit. The test pressure for Parker hydraulic hose assemblies is 2 times the value of the dynamic operating overpressure.

Proof Pressure Test
This test is typically carried out on customer request according to a method defined by the ISO 1402 standard. The test should be done at normal ambient temperature with a proof test bench using water or another suitable liquid. The hose assembly should be pressurised for between 30 to 60 seconds at twice the working pressure of the hose assembly. There should be no leakage or pressure drop. A complete test report should be provided together with the hose assembly to the customer.

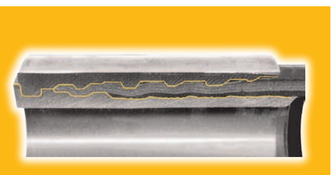
9. Cleaning



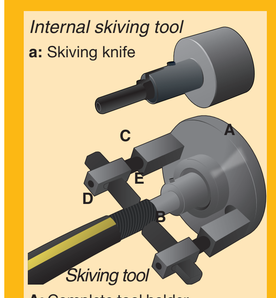
ISO 4406	NAS 1638	SAE 749
11/8	2	
12/9	3	0
13/10	4	1
14/11	5	2
15/12	6	3
16/13	7	4
17/14	8	5
18/15	9	6
19/16	10	
20/17	11	
21/18	12	

Hydraulic systems have to reach a defined degree of cleanliness. To ensure that and to achieve certain cleanliness classes you can use different cleaning devices for a fast and efficient cleaning of hose assemblies. The TH6-6 cleaning device first flushes the hose assembly with an anticorrossive emulsion and dries it afterwards with compressed air. The dry-cleaning systems TH6-10-EL-7 or TH6-10-HL-9-2 fire an Ultra Clean projectile through the length of the hose assembly. In the end protect the finished hose assembly against impurities with plastic caps.

4. Skiving



For the skiving of hydraulic hose, one distinguishes between internal skiving and external skiving. This system is applied for hose types with 4 or 6 spiral reinforcement layers, the so-called Parker Parlock System or Interlock.



A: Complete tool holder
B: Skiving mandrel for internal skiving
C: Supporting arm for skiving knife (short/long arm)
D: Skiving knife for external skiving (2x)
E: Skiving knife for internal skiving

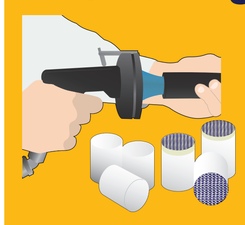
Adjustment of tools for internal skiving
Select the skiving tool according to the manufacturing documents and the hose size. Insert the knife for the internal skiving mandrel into the borehole of the mandrel provided for this purpose and mark it with a lock collar at the straight surface. When adjusting the knife, observe the marking on the internal skiving knife and insert the mandrel into the tool holder.

Adjustment of tools for external skiving
Attach the knives in the supporting arm. Select the supporting arm (long or short) depending on the hose size. Adjust the knives according to the Parker working instructions and insert the tools into the machine. Push the mandrel onto the hose until it is close to the tool (external or internal skiving knife).

External skiving tool
A: External skiving tool with two arms
B: Mandrel for external skiving
C: Supporting arm for skiving knife (short/long arm)
D: External skiving knife

Adjustment of the sense of rotation of the machine
Always skive into the direction of the spiral layers. Please observe the operation instructions of the machine.

5. Cleaning after skiving



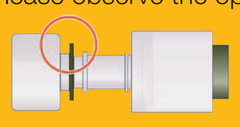
Immediately after skiving externally or internally an Ultra Clean projectile should be fired through the hose prior to the installation of end connections. Fire in each direction a new projectile through the length of the hose. For this purpose we recommend using our dry-cleaning systems TH6-10-EL-7 or TH6-10-HL-9-2.

6. Crimping 2-Piece ParLock Fittings

For crimping ParLock fittings V4 series a minimum of 320 tons crimping force is recommended. Min. of 340 tons for V6 series.

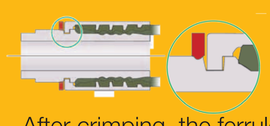
- Select the appropriate crimping dies using the crimping diameter chart.
- Before crimping hoses and fittings it must be ensured that you have the most recent crimping dimensions. For crimping dimensions please refer our crimp charts at www.parker.com/crimpsource-euro
- Insert the dies into the crimping press and set the crimping diameter.
- Place the pre-assembled hose assembly into the crimper and perform the crimping procedure.
- Please observe the operating instructions of the crimper.

Make sure that the hose ends are cut squarely. Push the ferrule onto the hose. The cut end of the hose must be clearly visible.



Push the nipple down into the hose until it reaches the stop on the lower groove (plastic ring, fitting shoulder or metal stop).

The ferrule must bottom up against the plastic ring or metal stop.



After crimping, the ferrule must be located precisely in the groove of the nipple.

7. Checking for the correct crimping diameter

In case of the ParLock System, the conicity is measured. It is measured at the beginning and the end of the ferrule in 2 measuring planes.

Measurement 1 in the plane of force

Measurement 2 displaced by 90°

The conicity must be within the tolerance range specified in the Parker specification.

Measurement 1 at the beginning and the end of the ferrule

Measurement 2 at the beginning and the end of the ferrule (displaced by 90°)

WC4400-8/UK
punctum 2015-08

www.parker.com
HPDE@parker.com
For further information please contact your local Parker Service Center

ENGINEERING YOUR SUCCESS.