



ST-80C Iron Roughneck

NOV ST-80C pedestal-mounted iron roughneck for drill pipe and drill collar connections

OVERVIEW

The ST-80C is a compact, pedestal-mounted iron roughneck that spins and torques drill pipe and drill collar connections on the rig floor. It replaces manual tongs, pipe spinners and catheads with one hydraulic tool, keeping the floor crew out of the hazard zone during make-up and break-out. The ST-80C is one of the most widely used iron roughnecks on land rigs, with over 630 units in service, and is well suited to small drill floors. Burj Resources supplies ST-80C iron roughnecks for sale or rental.

MAIN ASSEMBLIES

UPPER SECTION

Spinning Wrench

Rollers grip the upper tool joint and spin the connection in or out quickly before final torque is applied.

- 75 RPM on 5" drill pipe
- 1,750 ft-lb spin torque
- Soft clamp for thin-walled connections

Does: fast spin-in and spin-out, replacing the pipe spinner and spinning chain.

LOWER SECTION

Torque Wrench

Upper and lower jaws clamp each side of the connection and rotate through 30° to apply make-up or break-out torque.

- 60,000 ft-lb make-up
- 80,000 ft-lb break-out
- 4-1/8" to 8-1/2" tool joints

Does: controlled, repeatable torque in place of manual tongs and catheads.

POSITIONING

Pedestal & Arm

Floor-socket pedestal with an extending arm moves the wrench between well centre, mousehole and park position.

- 60" horizontal travel
- ±90° pedestal rotation
- 23" to 59" connection height

Does: reaches the connection at well centre and parks clear when not in use.

KEY SPECIFICATIONS

Tool joint OD range	4-1/8" to 8-1/2" (certain 2-7/8" drill pipe tool joints also possible)
Maximum make-up torque	60,000 ft-lb (81,349 N·m)
Maximum break-out torque	80,000 ft-lb (108,465 N·m)
Spin speed / spin torque	75 RPM 1,750 ft-lb (2,373 N·m), with 5" DP at 35 GPM
Connection height	23" to 59" (584 to 1,498 mm) above rig floor
Hydraulic supply	28 GPM @ 2,100 psi minimum 40 GPM @ 3,000 psi maximum
Mounting	Pedestal in floor-mounted socket, ±90° manual rotation
Controls	Local manual (hydraulic) control panel
Assembly weight	7,800 / 8,320 lb (3,538 / 3,773 kg), depending on configuration

FULL TECHNICAL SPECIFICATIONS

Specification	Imperial	Metric
Tool joint OD range	4-1/8" to 8-1/2"	105 to 216 mm
Maximum make-up torque	60,000 ft-lb	81,349 N·m
Maximum break-out torque	80,000 ft-lb	108,465 N·m
Spin torque (5" DP, 35 GPM)	1,750 ft-lb	2,373 N·m
Spin speed (5" DP, 35 GPM)	75 RPM	75 RPM
Torque wrench rotation	30°	30°
Connection height	23" to 59"	584 to 1,498 mm
Horizontal travel	60" (optional +15" to 25" reach)	1,524 mm
Vertical adjustment	36" or 72"	914 or 1,828 mm
Pedestal rotation	±90° (manual)	±90°
Hydraulic supply, minimum	28 GPM @ 2,100 psi	106 LPM @ 145 bar
Hydraulic supply, maximum	40 GPM @ 3,000 psi	151 LPM @ 207 bar
Assembly weight	7,800 / 8,320 lb	3,538 / 3,773 kg
Mounting / shut-off valve	Pedestal with floor-mounted socket · manual shut-off valve	
Controls	Local manual control panel	
Casing ready	No (drill pipe and drill collar service)	

Horizontal travel can be increased with an extender plate. Specifications are manufacturer published values and are subject to change without notice.

KEY FEATURES

- Compact and lightweight.** Fits small land-rig drill floors and mounts in a single floor socket.
- Soft clamp.** Minimal clamp force while spinning reduces belling of thin-walled connections.
- Controlled torque.** Torque adjust dial sets make-up torque for repeatable connections.
- Proven design.** Assemblies are 200,000-cycle tested, with a large installed base and parts supply.

SAFETY & INSPECTION

- Keeps crew hands away from tongs, spinning chain and cathead
- Emergency stop on the control panel
- Function and torque tested before dispatch
- Jaws, dies and hoses inspected; worn dies replaced

SUPPLY OPTIONS

- Sale or rental, with floor socket
- Spare dies, die carriers and service parts
- ST-80C² upgrade parts on request

ST-80C VS. ST-80C²

Item	ST-80C	ST-80C ² (2nd generation)
Torque & travel	Same: 60,000 ft-lb make-up, 80,000 ft-lb break-out, 60" travel	
Mounting	Floor socket	Retrofits the existing ST-80C floor socket
E-stops	Panel E-stop	Panel E-stop plus pull cords on the lower arm
Controls	Local manual panel	Redesigned pilot panel, remote lift switch

ST-80C IRON ROUGHNECK



PHOTO

ST-80C · Ready to Ship

Pedestal, arm and wrench assembly on its shipping skid, with handrail and service loop.



PHOTO

ST-80C · Wrench Assembly

Spinning wrench above the torque wrench jaws, with the hydraulic control valve and hoses on the carriage.

60,000 ft-lb

Max. make-up torque

80,000 ft-lb

Max. break-out torque

4-1/8"-8-1/2"

Tool joint OD

75 RPM

Spin speed, 5" DP

RIG REQUIREMENTS

Hydraulic power	28–40 GPM at 2,100–3,000 psi (106–151 LPM at 145–207 bar)
Floor mounting	Floor-mounted pedestal socket within reach of well centre (60" travel)
Lifting	Rig crane or forklift rated for 8,320 lb (3,773 kg) assembly



Need an iron roughneck for your rig?

Send your rig, pipe and collar sizes, hydraulic supply and rental period, and we'll quote the ST-80C with floor socket.

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