

# Running

## Equipment / tools

1. Use slip type elevators for flush, semi-flush, integral, special clearance and special bevel coupled connections.
2. Do not set elevators on the upset or connection area of any integral connection. To avoid this from occurring an appropriate 'striker' plate should be installed on the elevators.
3. Never use drill pipe / bottleneck elevators, even on pipe with hot forged upsets (Wedge 533<sup>®</sup>, PH6<sup>™</sup>, PH4<sup>™</sup>, CS<sup>®</sup>, PJD<sup>™</sup>).
4. Use low / non-marking, non-ferrous dies for chrome  $\geq$  13% and CRA pipe.
5. Collar type elevators may be used with regular OD coupled connections. For the maximum load which can be sustained by the coupling face refer to the product specific data sheet.
6. When using collar type elevators on integral connections or special clearance coupled connections, the bored ID of the elevators should be able to pass over the box connection OD and shoulder onto a lift / handling plug.
7. An internal diameter of approximately 0.5% more than the OD is recommended.
8. It is advisable to use a safety clamp when running flush, semi-flush or special clearance coupling connections.

9. Preferably use single joint elevators as they improve stabbing alignment and promote safer operations.
10. The use of a weight compensator is highly recommended for CRA and pipe with an OD  $\geq 14"$  and stands of 3 pipe  $\geq 7"$ .
11. Power tongs are recommended for final torque application.
12. Power tongs with a torque capability 30% above targeted make up torque should be used, as break out torques can be substantially higher.
13. The tong jaws should have sharp, clean dies correctly installed and positioned.
14. Tong dies with the capability to wrap round the majority of the pipe OD are recommended.

### Tong Die Penetration

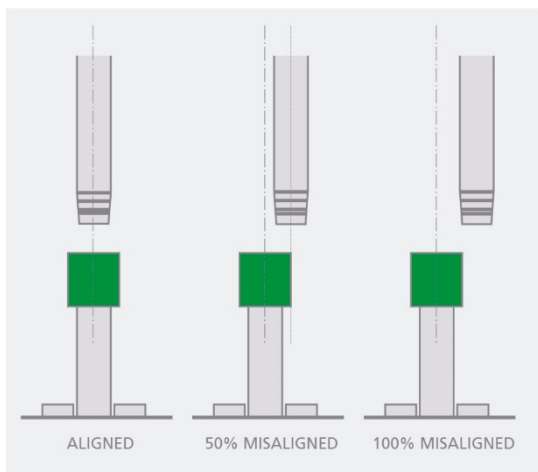
MAXIMUM INDENTATION DEPTH	CARBON STEEL	CHROME 9%-13%	CRA
Pipe Body	12.5% of Nominal WT*	0.012"	0.009"
Coupling	Refer to API	0.012"	0.009"

(\*) Dependent upon manufacturing specification a criteria lower than 12.5% of nominal wall thickness may be applicable.

15. It is recommended to use a torque turn monitoring system for TenarisHydril connections with some exceptions; see specific connection running guidelines.

## Stabbing

1. Alignment is critical in ensuring a properly assembled connection without incurring damage.
2. If misalignment is evident take remedial action to minimize.
3. Misalignment of more than 20% of the pipe OD outwith the corresponding box connection is deemed excessive when using power tongs. When CRT is used, misalignment should be minimal.



### ALIGNMENT

The pipe should be aligned with the box axis.

4. To prevent damage from accidental mishandling, do not remove the pin thread protector until the joint is ready to stab. When ready, remove the pin protector while the pin is hanging in the derrick, and the box is suspended in the rotary table.

5. Clean and re-inspect the connections if any doubt exists over connection integrity.
6. For Dopeless® connections, ensure the rings from the protectors are not adhering to the pin or box connection.
7. When stabbing the pin and before makeup, ensure that the box connection is not contaminated with drilling mud or completion fluid. This can among other effects, modify lubrication properties and affect connection energization and performance, potentially impacting well integrity. Tenaris recommends not to run connections in such conditions to eliminate any potential risk. When an overflow occurs, make sure the box is completely clean and then reapply thread compound as per running guidelines. For Dopeless® connections, make sure the connections are completely clean and dry.
8. Use a stabbing guide to facilitate accurate, safe stabbing of the pin into the box.
9. If an automated pipe racking system is used ensure the guide arm positions the pin end to be stabbed directly above the box connection.
10. If an automated pipe racking system is not used, ensure the pin is stabbed vertically with the assistance of someone on the stabbing board.
11. Lower the joint in a smooth controlled fashion taking care to avoid damaging the connections.
12. If an error occurs when stabbing, or the pipe tilts excessively to one side, pick up, clean the connections and inspect for damage.
13. Do not roll pin into box if the pipe hangs up when stabbing.

14. A weight compensator assists in stabbing in a smooth, controlled, safe manner.

## Make up

1. Once the pipe is stabbed commence rotation slowly to ensure the connections are not cross threaded.
2. Do not latch the back up tongs during initial spin in.
3. If any indication of cross threading occurs, immediately stop assembly and counter rotate the pin to remove and inspect both connections.
4. The pipe should be stabilized during spin in.
5. Maximum spin in speed should not exceed 15 RPM unless stipulated otherwise in the connection specific running guidelines.
6. Final make up should be achieved in low gear below 5 RPM unless stipulated otherwise in the connection specific running guidelines.
7. Make up speeds indicated are maximums. Several factors may dictate a lower RPM should be used for assembly such as weather, pipe movement or alignment among other variables.
8. Low gear should be engaged approximately 1 full turn prior to final make up point.
9. For chrome material the pipe should be walked in with the use of a strap wrench until hand tight, then final make up should be conducted with the power tong in low gear.

10. Make up all connections with the use of an appropriately sized and correctly maintained power tong.
11. Do not latch back up tongs over box ends, this increases the risk of galling the connection. On any integral connection, always grip the pipe body
12. Do not use pipe wrenches as back up tongs as they may damage the pipe body.
13. Use full wrap-around dies on thin walled or plastic coated pipe to reduce the possibility of damaging either pipe or coating.
14. Monitor the rotational speed for irregularities, irregular speeds may indicate connection misalignment.
15. Joints made up at irregular speeds should be backed out and inspected for possible damage.
16. If the pipe has a tendency to wobble greatly during make up due to harmonics, wind or rig motion, reduce the make up rotation speed to prevent damage.
17. When running pipe in stands, spin in speed should be reduced to prevent pipe wobble / whip.
18. If excessive wobbling persists despite reduced rotation speed, stop using the power tong for spinning in. Walk the connection in with a strap wrench. When hand tight, apply the power tong to reach optimum torque and monitor make up graph evolution.
19. Excess torque during make up or irregular rotation speed indicates poor alignment that may cause damage. Any rotational movement should be stopped until the cause is determined and corrected.

20. Make up acceptance criteria for each connection is contained within the connection specific running guideline. Also reference GDL23353, Blue Series and Legacy Series Make Up Acceptance and GDL 23355, Wedge™ Series Make Up Acceptance.

21. If handling plugs are used along with side door elevators ensure there is no contact between elevators and plug during make up as this can back the plug out of the connection.

## Lowering

1. Care should be exercised when setting rotary slips to avoid shock loading the string.
2. Ensure rotary slips are set carefully to prevent crushing or gouging the pipe body.
3. Ensure the elevator slips are set well below the connection area.

### INTEGRAL CONNECTIONS:

1. Keep the handling plug in the box connection until the joint is lowered and set in the rotary slips. The plug will help keep drilling mud off the thread and seal areas if overflow occurs. For further information on handling plugs see GDL23351, Handling / Lift Plugs.
2. If fill up is required during running, the handling plug should be left installed in the box to prevent the fill up hose from damaging box threads and seals.
3. Do not hammer on the box to break the handling plug free, as this may damage the connection. If necessary, hammer on the handling plug flange.

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