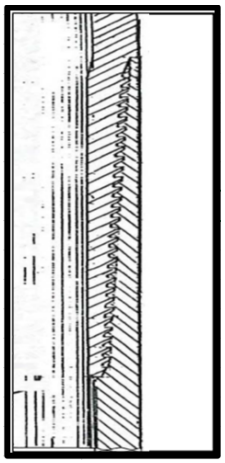
WOOLLEY TOOL, INC.
SINCE 1933
KILGORE PLEASANTON MIDLAND OKLAHOMA CITY

SPECIAL FEATURES

Hook thread prevents jump out and hoop loading caused by tension loads. The elimination of hoop loading improves pressure seal under both tension and compression loading of the joint.

If you want a FLUSH-FLUSH O.D. JOINT, this is the best joint for you. It is economical, dependable, and fast running.



WOOLLEY FLUSH JOINT LINER TECHNICAL DATA

3 1/2" 12.53 lbs/ft FJ60	J55	N80	P110
PIPE BODY DIMENSIONS			
Nominal Pipe Body O.D. (in)	-	3.500	3.500
Nominal Pipe Body I.D. (in)	-	2.750	2.750
Nominal Wall Thickness (in)	-	0.375	0.375
Nominal Weight (lbs/ft)	-	12.95	12.95
Plain End Weight (lbs/ft)	-	12.53	12.53
Drift I.D. (in)	-	2.625	2.625
PIPE BODY PERFORMANCE DATA			
Minimum Pipe Body Yield Strength (lbs)	-	294,600	405,000
Minimum Collapse Pressure (psi)	-	15,310	21,050
Minimum Interal Yield Pressure (psi)	-	15,000	20,630
CONNECTION DIMENSIONS AND PERF. DATA			
Connection O.D. (in)	-	3.500	3.500
Pin Connection I.D. Bored (in)	-	3.500	3.500
Make-up Loss (in)	-	4.625	4.625
Critical Area (sq in)	-	2.336	2.336
Joint Efficiency (%)	-	64	64
Reference Minimum Parting Load (lbs)	-	233,000	292,000
Reference String Length (ft)	-	11,162	14,825
Collapse Pressure Rating (psi)	-	15,310	21,050
Internal Pressure Rating (psi)	-	15,000	20,630
Interchangable With Weights (lbs)	-	NA	NA
RECOMMENDED MAKE-UP TORQUE			
Minimum Final Torque (ft/lbs)	-	1,110	1,110
Maximum Final Torques (ft/lbs)	-	2,000	2,000

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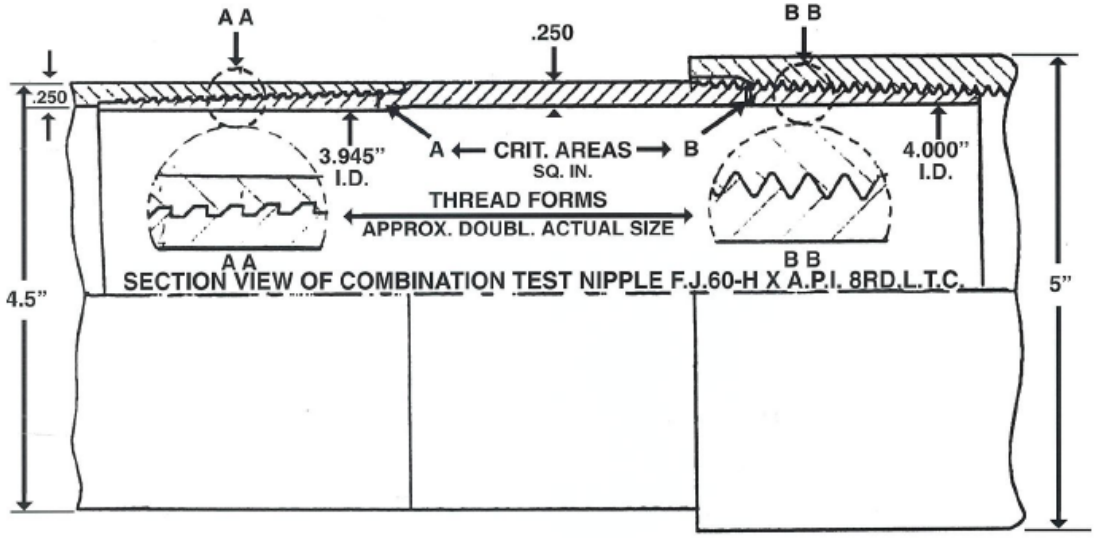
SKETCH TO ILLUSTRATE THE SET UP FOR TENSILE TESTING, PARTING LOAD CAPACITY OF WOOLLEY F.J.60-H FLUSH JOINT THREAD VS. A.P.I., 8RD. L.T.C. THREADS CUT ON OPPOSITE ENDS OF EACH J OR K-55 4 1/2" O.D., 11.60# CASING TEST NIPPLE



Repeated tests with above setup established two things. the A.P.I. 8rd thread always jumped out at approximately 160,000# tension, leaving the flush joint F.J.60-H undamaged and not tested near to its limit.

The setup was then changed to F.J.60-H thread on both ends of the same test nipples in order to determine parting load of the flush joint thread.

On this setup we had repeated parting loads of 196,000# with one test going to 220,000#.

On all tests to ultimate tensile on the F.J.60-H flush joint, there were no jump outs. All pins parted in critical root of the last effective pin thread.

All tension testing started at 100,000#, then increased in tensile steps of 15,000# with Hydrotest to 6,000 psi betwen tensile steps. There were no leaks prior to parting.