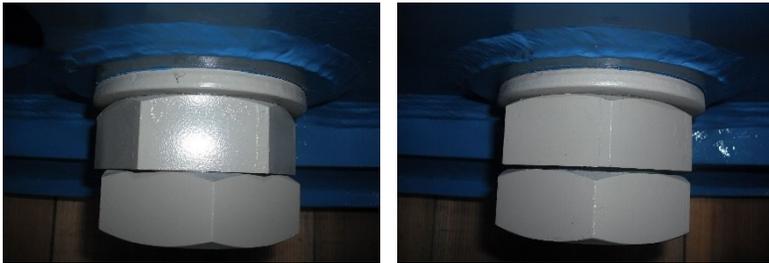
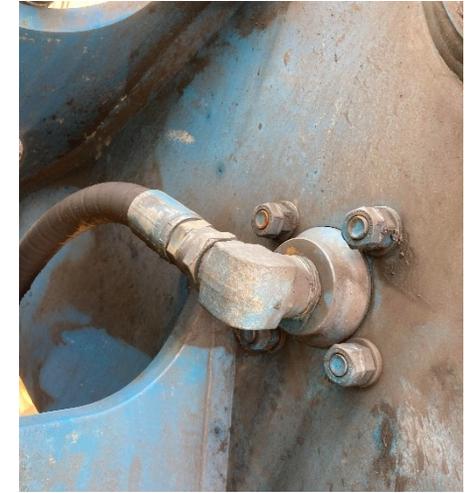
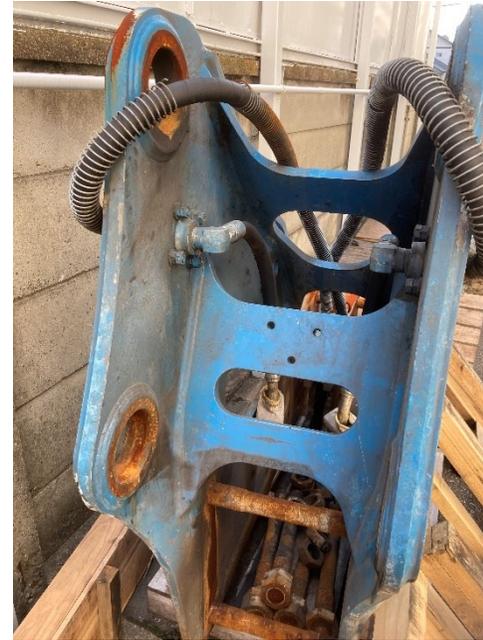


**HARDLOCK<sup>®</sup>**  
**Solution**

**Hydraulic Breaker  
Hammer Application**

# HARDLOCK Nut use on Hydraulic Breaker Hammer



Fixing side bracket and cylinder block (TEISAKU)

For clamping the side brackets, knuckle thread fasteners are employed to withstand very large forces that may cause bolt breakage.

While the Concave nut of HLN is tightened to achieve the upper limit of the recommended tightening torque, torquing is stopped when the nuts come into one-side contact.

The eccentricity of the protrusion is specially designed for knuckle thread, Rd HLN seems to be easy to develop one side contact.

Fixing pressure oil hose  
M16x2.0 C8 MP



Fixing top cover for silent damper  
(Furukawa Rock Drill)



**Safety is power!**

**HARDLOCK®**

# Tightening torque of HARDLOCK Nuts



TEISAKU Products		TOP210B	TOP400B	TOP800B
Working pressure [MPa]		14 ~ 18	14 ~ 18	15 ~ 18
Required oil flow for Breaker [L/min]		120 ~ 160	280 ~ 350	280 ~ 380
Frequency [bpm]		310 ~ 430	320 ~ 390	260 ~ 360
Operating weight [kg]		1,680	3,750	5,600
Overall length [mm]		2,330	3,089	4,420
Working tool Dia. [mm]		135	169	189
Suitable carrier machine [Ton]		20 ~ 23	40 ~ 50	60 ~ 80
HARDLOCK Nut				
Size		Rd42x1/8 (TPI 8)	Rd52x1/6 (TPI 6)	Rd56x1/8 (TPI 8)
Material/Surface treatment		S45C/ Manganese Phosphate	S45C/ Manganese Phosphate	S45C/ Manganese Phosphate
Tightening torque [Nm]	Convex Nut	3,700 Nm	7,300 Nm	7,600 Nm
	Concave Nut	690 Nm	830 Nm	880 Nm

The tightening torque of the Convex nut is a result of calculation using torque coefficient of 0.18 to achieve clamp force of 70% of bolt yield point (Class 8.8). TEISAKU are using 12.9 bolt and did not disclose exact tightening torque, but they are not too far off.



**Safety is power!**

