

World Headquarters Taper Lock Tooling Helox-Shelox®

**Taper Lock Tooling
and Applications**



**TAPER LOCK
DEPTH SENSOR
SYSTEMS**
Pg Q10 - Q13



**COUNTERSINK
SUPER SENSOR
SYSTEMS**
Pg Q14 - Q15



**TAPER LOCK
SENSOR
SYSTEMS**
Pg Q16 - Q17



**TAPER LOCK
FASTENERS
STORY**
Pg Q4 - Q7



**HELOX® SHANK
INSERTS**
Pg Q33



**HELOX®
ADAPTERS**
Pg Q32

Helox and
Shelox are
UNITED's
registered
trademark
names.



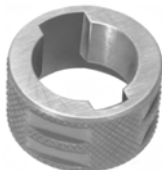
**490000 SERIES
HELOX® SHANK
INSERTS**
Pg Q27 - Q29



**HELOX® TELESCOPIC
ASSEMBLIES**
Pg Q30 - Q31



SHELOX® SPRING Pg Q30



**'P' SHELOX® NURLOCK
LINERS FOR PLASTIC**
Pg Q36



**TAPERED GUIDE
BUSHINGS** Pg Q41



**'S' SHELOX® LINERS
HEAD UP**
Pg Q35



**'A' SHELOX® LINERS
HEAD DOWN**
Pg Q34



TAPER LOCK TAPERED HOLE CLEANERS Pg Q40



**TAPER LOCK KNOCK-OUT
TOOL** Pg Q41

Taper Lock Information

World Headquarters

TAPER LOCK FASTENERS

1. Greatly increase structural joint fatigue life.
2. Save weight through structural thickness, fastener size and pattern density.
3. Are self-contained and self-locking.
4. Install faster and reduce costs.
5. Are self-sealing, providing a positive fuel seal by its simple proven geometry.
6. Have military approval for this type of application without the use of a sealant.

The Taper Lock Fastening System



TAPER LOCK FASTENERS
 PRECISION GROUND
 CLOSE TOLERANCES
 INTERFERENCE FIT
 AUTOMATIC ALIGNMENT
 FULL BEARING
 UNIFORM LOADING
 .0208 TOTAL TAPER PER INCH



CONVENTIONAL FASTENER

IMBALANCED STRESS



TAPER LOCK FASTENER
 BALANCED STRESS
 GREATER WEAR STRENGTH



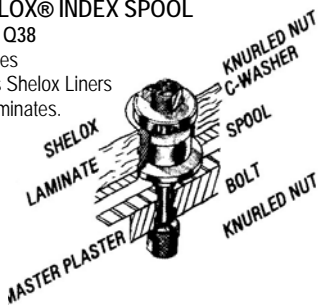
SHELOX® LINERS
 Pages Q34 - Q35
 For Steel
 For Aluminum
 With Lock Nuts

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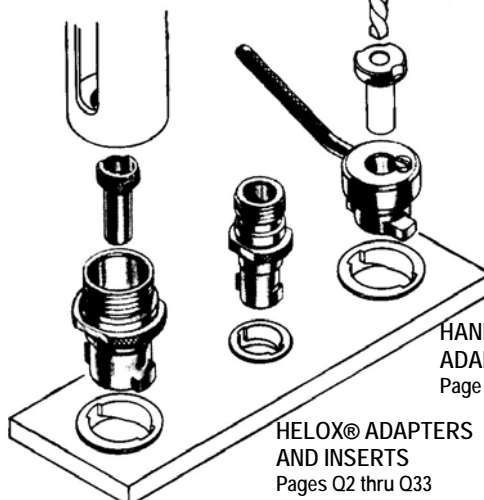
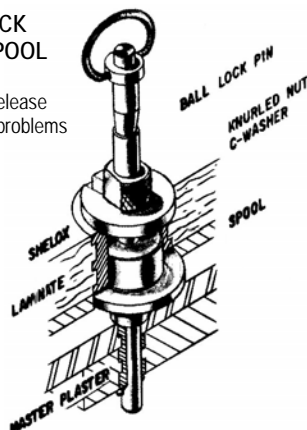


SHELOX® LINERS
 Page Q36
 For Plastics
 For Soft tools

SHELOX® INDEX SPOOL
 Page Q38
 Locates
 Holds Shelox Liners
 In Laminates.



BALL LOCK INDEX SPOOL
 Page Q38
 For quick release
 For space problems

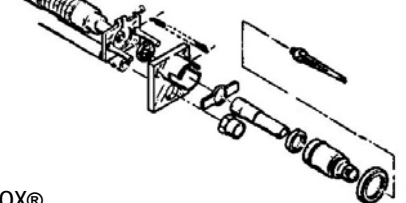


HELOX® ADAPTERS AND INSERTS
 Pages Q2 thru Q33

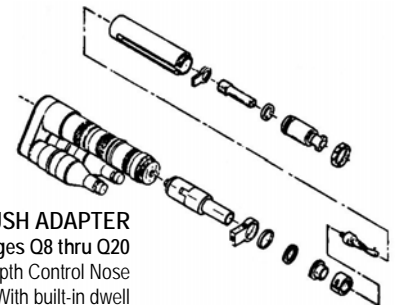
HELOX® ADAPTERS WITH RENEWABLE BUSHINGS
 Page Q37
FOR SHANK INSERTS
 Page Q32

HANDLE HELOX® ADAPTERS
 Page Q37

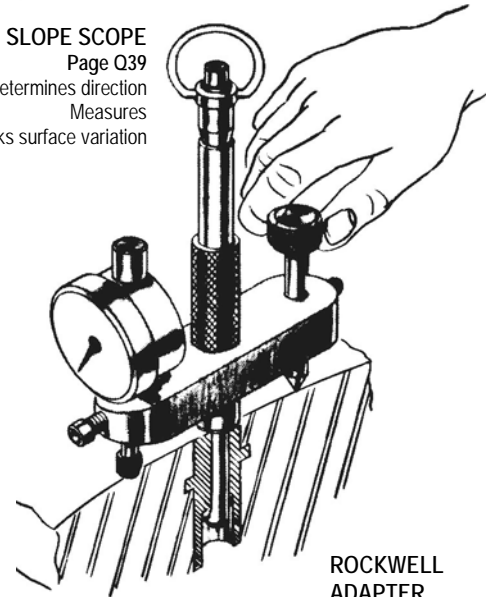
HELOX® DEPTH SENSING ASSEMBLY
 Pages Q22 - Q23
 For Spacematic motors



QUACKENBUSH ADAPTER
 Pages Q8 thru Q20
 Depth Control Nose
 With built-in dwell



SLOPE SCOPE
 Page Q39
 Determines direction
 Measures
 Marks surface variation



ROCKWELL ADAPTER
 Page Q24
 For control location
 And depth

Taper Lock Tooling

Taper Lock Applications

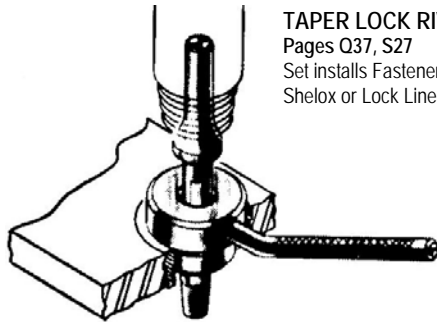
UNITED's COMPLETELY INTER-RELATED SYSTEM

1. Patent Numbers 3,829,977; 3,742,584; Patents Pending 3,756,736; 3,762,827.
2. Fixturing of many types.
3. Locating with precision.
4. Holding and Guiding systems.
5. Gauging precisely.
6. Installing Taper Lock and similar high performance systems.

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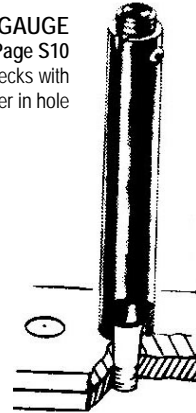
Helox® - Shelox® Gauge & Guidance

TAPER LOCK CUTTERS
Section R - Pages R1 - R27
Precision holes



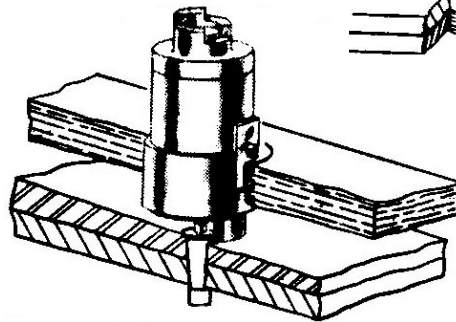
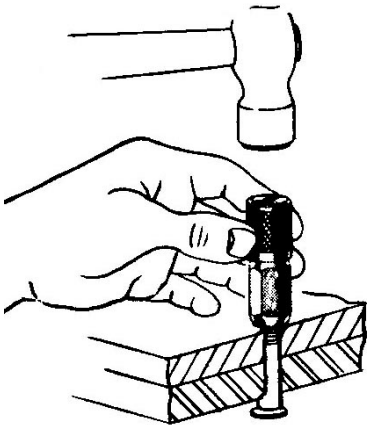
TAPER LOCK RIVET SET
Pages Q37, S27
Set installs Fastener thru
Shelox or Lock Liners

PROTRUSION GAUGE
Page S10
Checks with
Fastener in hole



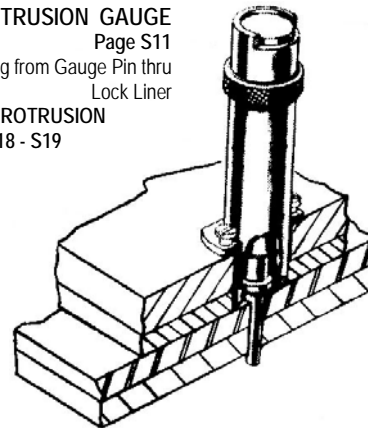
HELOX® PROTRUSION GAUGE
Page S10
Inspects through Shelox Liner

TAPER LOCK REMOVAL & KNOCKOUT TOOL Page Q41
Removes damaged or improperly set Fasteners.

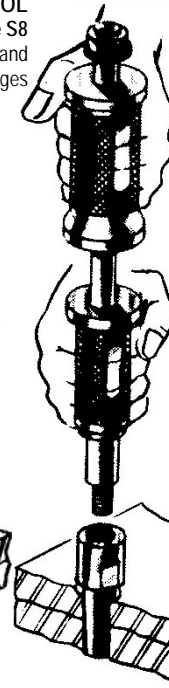


IMPACT TOOL
Page S8
Inserts and
removes Gauges

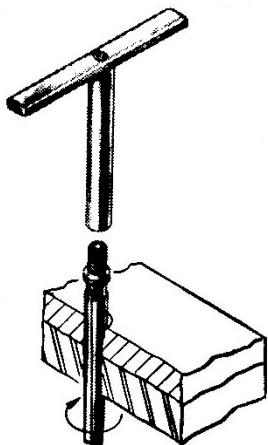
PROTRUSION GAUGE
Page S11
Checking from Gauge Pin thru
Lock Liner
4-WAY PROTRUSION
Pages S18 - S19



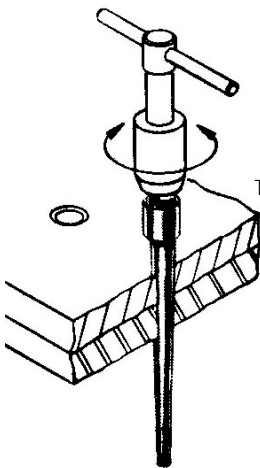
TAPERED HOLE CLEANER
Page Q40
Avoids pollution
in holes



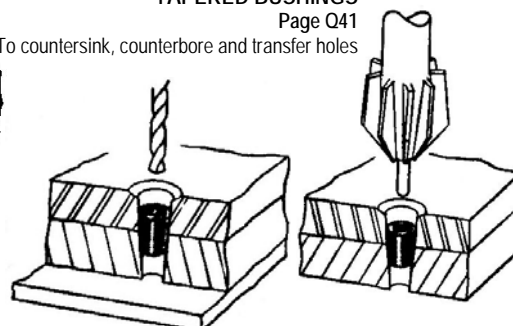
T-HANDLE and SINGLE FLUTED REAMER
Page R25
Removes only a few thousandths of material when required.



TAPERED PRECISION LAP
Page S26
To finish and size tapered holes



TAPERED BUSHINGS
Page Q41
To countersink, counterbore and transfer holes



TAPERED COUNTERSINK GAUGE
Pages S9, S15, S21 - S25
Checks countersink depth on tapered holes
TAPERED GAUGES
Pages S7, S12 - S17, S20
Precision to inspect hole bearing

