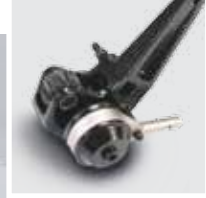


Industrial Torque Solutions



Who we are

One Company, Total Support, Complete Solutions

Over many years Hydratight has provided world class bolted joint solutions and continues to set international standards in joint integrity for our customers on a global scale.

One Company

Hydratight works in partnership with the world's leading OEMs using the latest computer technology and market leading development facilities. We continue to push back the boundaries of technology to provide fast, accurate and reliable solutions to critical assembly problems.

Our people are the key to our success – Hydratight's staff is qualified, competent, innovative and able to work closely with customers to ensure a total understanding of their requirements.

One Company – Total Support

Totally committed to safety and quality, all Hydratight products and services are designed, manufactured and carried out within a management system in accordance with ISO 9001:2008 (Quality Management), ISO 14001:2004 (Environmental Management), and OHSAS 18001:2007 (Occupational Health and Safety).

One Company – Total Support – Complete Solutions

Our extensive bolting and machining services include:

- Torque and tension bolting equipment
- Portable machining equipment
- Product sales, rental and technical support
- Product service and training
- Special designs and alternative sizes are available upon request

Our Specialist Industrial Tools Brand

Since 1949, Hydratight, under the brand name of Sweeney, has led in the design, development and manufacture of highly specialized tools, and the handling equipment for industrial engines' maintenance. The Sweeney brand is recognized as the leader in professional tooling, offering total design and production capabilities to meet customers needs; and providing solutions for any torque maintenance requirement.

For additional specifications on our products for sale or rental, videos of our products in action, or information about our on-site services, please visit us on the web at hydratight.com.



Engineering Driven Safety Focused Solutions



LRQ 0912064



LRQ 4000352



LRQ 4003099



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INVESTOR IN PEOPLE

Torque Multipliers

Easy to use, Hydratight's range of Sweeney brand torque multipliers enables small amounts of input torque to produce large amounts of output torque, efficiently and safely.



When selecting a torque multiplier sufficient torque should be allowed to break out the bolts. We suggest 2x the tightening torque.

Universal Torque Multipliers

When the accurate make-up or break-out of a stubborn fastener requires a high level of torque, the Sweeney brand of torque multipliers improve the job. Sweeney torque multipliers are proudly made in the USA and consist of the high quality craftsmanship that you have counted on from Sweeney tools since 1949. The Sweeney line includes tools with capabilities ranging from 750 to 80,000 ft-lbs and the ability to fit many different applications.

Features

- Overload protection – protects tool from internal damage
- Anti-backlash device
- High efficiency using planetary gear sets
- Input/output torque charts
- Angle of turn protractor
- Multiple styles of reaction
- Customer reaction anchors (available upon request)
- Application support

Benefits:

- Accurate
- Durable
- Reversible
- Low input torque to achieve high output torque

Reaction Bar Torque Multipliers

Specification	290 Plus	291	292	391	392	393
Output Capacity – lbs-ft (N-m)	750 (1,017)	1,000 (1,356)	2,000 (2,712)	1,200 (1,627)	2,200 (2,983)	3,200 (4,339)
Input Capacity – lbs-ft (N-m)	250 (339)	333 (451)	571 (775)	200 (271)	162 (220)	173 (235)
Torque Ratio	3.0:1	3.0:1	3.5:1	6.0:1	13.6:1	18.5:1
Output Sq Size	3/4"	3/4"	1"	3/4"	1"	1"
Case Included	NO	NO	NO	YES	YES	YES
Square Drive Kit PN	291-1	291-1	292-2	391-700	392-700	393-700
Overload Protection	NO	NO	NO	YES	YES	YES
Anti Backlash	NO	NO	NO	NO	YES	YES
Head Diameter in (mm)	2.8 (7.1)	2.8 (71)	3.8 (95)	3.94 (100)	4.06 (103)	4.06 (103)
Height – in (mm)	3.1 (79)	3.3 (84)	4.5 (114)	4 (102)	5.75 (146)	6.5 (165)
Length – in (mm)	8.6 (217)	17.4 (443)	19.5 (495)	19.6 (497)	19.6 (497)	19.6 (497)
Weight – lb (kg)	3.8 (1.7)	5.5 (2.5)	12 (5.5)	9.1 (4.1)	15.2 (6.9)	18.3 (8.3)

Models 391, 392 & 393 are sold with one (1) replacement square drive. All tools include a torque conversion chart and manufacture spec of +/- 5% (excluding model 292-breakout tool design). Full certification available for most tools upon request.* (*additional charges may apply)

Reaction Plate Multipliers

The Sweeney brand of reaction plate multipliers from Hydratight offer high torque ratios and reaction anchors to adjacent sockets. Custom designs are also available.



395 Not Pictured

Reaction Plate Multipliers

Specification	491	492	493	394	395
Output Capacity – lbs-ft (N-m)	1,000 (1,356)	2,200 (2,983)	3,200 (4,339)	5000 (6,779)	8,000 (10,847)
Input Capacity – lbs-ft (N-m)	196 (266)	162 (220)	173 (235)	189 (256)	154 (209)
Torque Ratio	5.1:1	13.6:1	18.5:1	26.5:1	52.0:1
Input Square Size	1/2"	1/2"	1/2"	1/2"	1/2"
Output Square Size	3/4"	1"	1"	1"	1"
Square Drive Kit PN	491-75	492-75	493-75	394-7000	395-7000
Overload Protection	YES	YES	YES	YES	YES
Anti Backlash	YES	YES	YES	YES	YES
Head Diameter in (mm)	4.38 (111)	4.88 (124)	4.88 (124)	5.62 (143)	5.81 (148)
Height – in (mm)	4.5 (114)	5.5 (140)	6.41 (163)	8.75 (222)	10.75 (273)
Length – in (mm)	13.5 (343)	14 (356)	14 (356)	14.9 (378)	15.2 (22.8)
Weight – lb (kg)	10.5 (4.8)	17.2 (7.8)	19.5 (8.9)	34 (15.4)	50.3 (22.8)

All tools include a torque conversion chart and manufacture spec of +/- 5% Full certification available for most tools upon request.* (*additional charges may apply)

Torque Wrench Accessories

3990 Torque Multiplier

For application with lower overhead clearance. Provides an additional 5.2:1 torque ratio.



Specification	
Max Output	200 ft-lbs (271 N-m)
Input Capacity	38 ft-lbs (52 N-m)
Torque Ratio	5.2:1
Length	4.0" (102mm)
Diameter	3.12" (79mm)
New Weight	5.5 lbs (2.5kg)
Input & Output	1/2" square

3900A Air Motor

Lightweight reversible air motor that attaches directly to most Sweeney Universal Torque Multipliers (excluding 290 & 291). When equipped with the optional air pressure regulator, the output torque of the multiplier can be closely controlled for high repeatability.



Specification	
Max Output	200 ft-lbs (271 N-m)
Max Run Air Pressure	60 psig (410 kPa)
Free Speed	70rpm
Length	16.25" (413mm)
Weight	11 lbs (5kg)

Model	Description	Specification
67	Ratchet Adaptor	Input: 3/4" (19mm) square female Output: 3/4" (19mm) male
53	Torque Wrench-Click Style	Range: 30–250 ft-lbs Output: 1/2" (12.7mm) square male
54D	Torque Wrench-Dial Type	Range: 0–600 ft-lbs Accuracy: +/- 4% Output: 3/4" (19mm) male
63B	Work Handle	Length: Telescopes 18" – 30" (457.2 – 162mm) Output: 3/4" (19mm) square male



Diesel Engine Applications

Hydratight also offers a full line of Sweeney brand diesel engine torque multipliers and accessories for a variety of applications. Custom designs are also available.



Model	Description	Main Components*	Description	Use
221	Powerwrench Set EMD#9551713	3932 361-40 361-61 393-40 329B 53	Torque Multiplier Reaction Socket Socket Reaction Anchor Chest Tool Torque Wrench	Cylinder Head Crab Nut Set Provides 15.5:1 torque ratio to accurately tighten and easily loosen Cylinder Head Crab Nuts with a one man operation. Only 130 ft-lbs needed on input to tighten cylinder heads nuts to 2,400 ft-lbs.
221-1	Pneumatic Powerwrench Set	221 3900A 221-88	Powerwrench Set Air Motor Air Control Kit	Add speed and ease to the 221 with this set that includes pneumatic power at the push of a button.
221HD	Heavy-Duty Powerwrench set	394 948865 53	Torque Wrench Socket 1-1/2 x 2-3/4 Torque Wrench	Same function & purpose as the 221 set but with added torque capability required for newer engines on the market. Twice the torque is recommend for break out as input.
2864-2	Crank Over Tool EMD# 9561844 (Manual) Electric Drive kit 2864-330 also available	391-100 2864-15	Torque Multiplier Anchor Assembly	Manual Crank-Over tool is designed to rotate EMD crankshafts on engine models equipped with dual starters and ring gear on standard or heavy flywheels. Can be used on engine in or out of frame, with starter motors in place or removed.
2862-2	Crank-Over Tool EMD# 9560336	391-100 2862-15 391-1830 2682-325	Torque Multiplier Anchor Assembly Handle Holding Strap	Manual Crank-Over tool is designed to rotate EMD crankshafts on engine models equipped with dual starter and ring gear. Used in or out of frame, with starter motors in place or removed, and with or without crank jack saddle.
2862-300	Pneumatic Drive Kit EMD# 9560337	Includes all needed to make the 2862-2 air driven	**Call for details on components	Optional pneumatic air drive kit to be coupled with 2862-2.
2862-320	Pneumatic/Remote control kit EMD# 9560338	25 foot hose and attachments	Remote Operation	Optional remote control kit to be bundled with 2862-2,2862-300 for remote operation.
2340 & 2340-1	Powerwrench Sets EMD# 8474807	**Call for details on components	Main component 235A Torque Multiplier pictured on page 6	Main Bearing Cap Nuts Provides a simple and efficient method to easily loosen or accurately tighten main bearing cap nuts.

Diesel Engine Applications

Hydratight offers a full line of Sweeney brand diesel engine torque multipliers and accessories for a variety of applications. Custom designs are available.

235A Torque Multiplier

Designed specifically to loosen and tighten main bearing cap nuts on EMD 567C, D & 645 engines. Has two-sided input and output and can be used on either side to drive in a given direction.

Input/Output: 3/4"
 Max Output: 1,400 ft-lbs (1898 N-m)
 Ratio: 7:1
 Max Height: 3"
 Weight: 9 lbs
 Max Width: 6-1/4"
 Max Length: 14-1/2"

381 Torque Multiplier

Designed specifically to loosen and tighten main bearing cap nuts on EMD or Alco 251 inline 6 cylinder engines. Has two-sided input and output and can be used on either side to drive in a given direction.

Input: 3/4"
 Max Output: 3,600 ft-lbs (4882 N-m)
 Output: 1-1/2"
 Max Height: 4.375"
 Ratio: 8:1
 Max Width: 6.63"
 Weight: 9 lbs
 Max Length: 20.265"

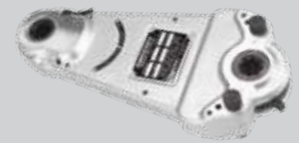
103F Torque Multiplier

Universal geared wrench for use in tightening and loosening nuts, bolts and cap screws. Its lower profile and long reaction handle allow for maneuverability in hard to reach areas.

Output Capacity: 2000 ft-lbs (2712 N-m)
 Input Max: 400 ft-lbs (542 N-m)
 Ratio: 5:1
 Overall Length: 27-19/64"

2340 Powerwrench Set (EMD 8474807)

235A	Torque Multiplier
2311	Offset Ratchet Wrench, 3/4" square drive M
2316	Socket 3/4" sq M x 1-7/8" Hex
2346	Socket (short), 3/4" sq M x 1-7/8" Tilt-On Hex
2347	Socket (long), 3/4" sq M x 1-7/8" Tilt-On Hex
235-40	Anchor Plate Assembly (235-42A & 231-466)
53	Torque Wrench, 1/2" sq drive M
948514	Adapter (for 53), 1/2" sq F x 3/4" sq M
63	Work Handle, 3/4" sq dr M
67	Ratchet Adapter, 3/4" sq dr M
109C	Steel Chest
2340-1	Powerwrench set items 2,5,6,7,11,12 only



3840-5 Powerwrench Set (ALCO & MLW/ALCO 2470198-3)

381	Torque Multiplier
3081-47	Anchor Plate
3088	Socket 1-1/2" Hex < x 2-3/8" Hex tilt on
3089	Socket 1-1/2" Hex M x 2-3/4" Hex tilt on
54	Torque Wrench
63	Work Handle
67	Ratchet Adaptor
109C	Chest



Input Drive: 3/4"
 Output Drive: 1"
 Weight: 12.75 lbs
 Overall Height: 5-17/32"

Torque Testers

Sweeney torque testers quickly and easily test the accuracy of manual torque wrenches and screwdrivers.

Mechanical Torque Testers

Torque applied to the input of the tester transmits movement to a stay-set indicator which remains on the maximum torque reading obtained until it is manually reset to zero.

Features: Durable, portable, stay-set pointer, accuracy +/-1% of reading, dual reading scale, clock-wise or counterclockwise readings. Standard models provide English units scale. Metric scale can be provided upon request.

Maximum Range				
Model	7045E	7065E	7075E	7085E
lb-ft	1000	500	150	
lb-in		6000	1800	250
oz-in				4000
N-m	1400	675	205	28.25
Square Drive (in)	1" Male	3/4" Male	3/8" Female	3/8" Female
Square Adaptors (in)	1"F x 3/4"F	3/4"F x 3/4"F	3/8"M x 1/4"F	3/8"M x 1/4"F
	1"F x 1"F	3/4"F x 1/2"F	3/8"M x 1/2"F	
		3/4"F x 3/8"F		



Electronic Torque Testers

A unique microprocessor design determines the actual torque applied by "click type" torque wrenches at the instant the click occurs, eliminating operator influence. English or metric scale conversions can be made with the touch of a button.

Features: Accurate +/-1% of reading & English & Metric reading capability.

Maximum Range							
Model	7495	7485	7480	7475	7465	7445	7435
lb-ft			150	250	500	1000	2000
lb-in	50	250	1800	3000	6000	12000	24000
oz-in	800	4000					
N-m		20.21	203	339	678	1356	2712
mN-m	5470						
kgf-m			20.7	34.6	69	138.2	276.5
Female Sq Drive Sz (in)	1/4"	3/8"	1/2"	1/2"	3/4"	1"	1"
Adaptor Sz (in) Sq Male x Sq Female		3/8" x 1/4"	1/2" x 3/8"	1/2" x 3/8"	3/8" x 1/2"	1" x 3/4"	1" x 3/4"



Hydratight Repair Center – Repair • Certification • Calibration • Warranty

Torque tools tested annually is the industry standard. Hydratight recommends sending in your tools to our certified repair center for calibration on an annual basis to be serviced and certified for accuracy. This service will extend the life of your tools and their confirm their accuracy. Three authorized service centers available: USA, UK & Japan. Contact us at repair@hydratight.com or +1-715-627-5500.

Standard Service Includes:

- Complete disassembly and inspection of all components
- Replacement of any worn or broken components
- Re-lubrication with engineering specified grease
- Assemble & test for "as left" accuracy
- Confirmation of engineered tolerance compliance
- Provide copies of "as found" and "as left" certificates of accuracy

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GLOBAL STANDARDS LOCAL DELIVERY

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Or find your local representative at:
hydratight.com/contact

