

## 1"-3½" Class Impacttools



You'll master the toughest challenges with IR's 1-inch to 3½-inch Class Impacttools. Designed for high volume production or heavy maintenance and construction applications, these models incorporate the finest materials and most precise tolerances. IR has combined almost seventy years of Impacttool expertise and the finest materials around to produce the best Impacttools the industry has to offer.

# 1" Class Impacttools



## Features

- 1" square drive or No. 5 spline models
- Plated ductile iron hammer case and durable epoxy-coated motor housing and handle
- Twin-hammers mean more power per pound
- Pressure-feed impact mechanism lubrication
- Two-piece motor housing

## Standard Equipment

### Series 2934

- 1/2" NPT inlet
- Plated cast iron hammer case
- Dead straight handle (A & B models only)
- Spade style dead handle (B9 & P2 models only)
- Integral muffler
- Built-in power regulator (P2 model only)
- 90° Angle drive (Model 2934B9 only)

## Standard Equipment

### Model 1734A1

- 1/2" NPT inlet
- Plated hammer case

### Series 1712

- 1/2" NPT inlet
- Ductile iron hammer case
- B2 model: Inside throttle and spade style dead handle

## Equipment at Extra Price

### Series 1734

- No. 5 spline 280-A514-6
- \*6" square anvil: 280-726-6
- Hanger: 2934-366
- Exhaust deflector kit: 2934-K23
- Piped-away exhaust with muffler: 2940-KM184
- Piped-away exhaust without muffler: 2940-K184

### Series 2934

- 90° Angle drive is available for all square drive models.
- Order angle attachment No. 2934A90

and hex nose hammer case No.

2934-A827. This hammer case must be used to replace the standard hammer case. Note that these items are furnished as standard equipment on Model 2934B9

- \*1" drive x 6" (152 mm) extended anvil No. 2934-314-6
- Horizontal hanger consisting of:
  - One horizontal hanger No. 2934-366
  - Two hanger spacers No. 2934-140
- Piped-away exhaust muffler kit No. 2940-KM184. (A & B models only)

### Series 1712

- \*1" drive x 6" (152 mm) extended anvil No. 280-726-6
- 2934-366 horizontal hanger

Model	Drive Description	Handle	Free Speed rpm	Impacts per minute	Maximum Torque		Recomm. Torque Range		Weight, less socket		Length, less socket		Side to Center Distance		Size Hose Recomm. CFM	
					ft.-lb.	Nm	ft.-lb.	Nm	lb.	kg	in.	mm	in.	mm	in.	mm

## Super Duty Impacttools

2934A2	1" square	Grip O.T.	6600	750	1500	2030	500-1100	678-1490	18½	8.39	11¼	286	2⅜	56	¾	19	47
2934B1**	No. 5 spline	Grip I.T.	6600	750	1500	2030	500-1100	678-1490	18½	8.39	11¼	286	2⅜	56	¾	19	47
2934B2	1" square	Grip I.T.	6600	750	1500	2030	500-1100	678-1490	18½	8.39	11¼	286	2⅜	56	¾	19	47
● 2934B9	1" sq. at 90°	Grip I.T.	5300	780	750	1624	250-500	678-1355	35¾	16.2	18⅝	473	11⅝	141	¾	19	47
▲ 2934P2	1" square	Pistol	5300	825	1500	2030	500-1100	678-1490	20	9.07	8⅝	219	2⅜	56	¾	19	47

## Heavy Duty Impacttools

1734A1**	No. 5 spline	Grip O.T.	6000	800	1400	1904	450-1000	612-1860	18⅜	8.34	11¼	286	2⅜	56	¾	19	47
1712B2	1" square	Grip I.T.	6000	800	1350	1836	450-1000	612-1860	18¼	8.28	11¼	286	2⅜	56	¾	19	47
1712P2	1" square	Pistol	6000	800	1350	1836	450-1000	612-1860	18¼	8.28	11¼	286	2⅜	56	¾	19	56

\*Approx. 15% torque reduction.

Performance figures are at 90 psi (620 kPa) air pressure. Angle head gear ratio on model 2934B9 B is 1 to 1.

\*\*No. 5 spline 1⅝" OD 14 teeth.

† Side to center distance of angle head. Height of angle head to shoulder of square drive is 4⅜" (111 mm).

I.T.: Inside Trigger  
O.T.: Outside Trigger



● 2940B1



▲ 2940P2

### Features

- Choice of 1" square drive or No. 5 spline
- Plated ductile iron hammer case and durable epoxy-coated motor housing and handle
- Twin-hammers mean more power per pound
- Two-piece motor housing

### Standard Equipment Series 2940

- 1/2" NPT inlet
- Plated cast iron hammer case
- Integral muffler
- Built-in lubricator
- Straight dead handle (A & B models only)
- Spade style dead handle (P2 Model only)
- Integral power regulator (P2 Model only)

### Equipment at Extra Price Series 2940

- Piped-away exhaust muffler kit No. 2940-KM184 (A & B models only)
- Horizontal hanger consisting of
  - One horizontal hanger No. 2934-366
  - Two hanger spacers No. 2934-140
- \*1" drive x 6" (152 mm) extended anvil No. 2940-314-6

Model	Drive Description	Handle	Free Speed rpm	Impacts per minute	Maximum Torque		Recomm. Torque Range		Weight, less socket		Length, less socket		Side to Center Distance		Size Hose Recomm. CFM		
					ft.-lb.	Nm	ft.-lb.	Nm	lb.	kg	in.	mm	in.	mm	in.	mm	
2940A1**	No. 5 spline	Grip O.T.	5000	850	2000	2710	1000-1600	1360-2170	22	9.98	12 <sup>1</sup> / <sub>4</sub>	311	2 <sup>3</sup> / <sub>16</sub>	56	3/4	19	58
2940A2	1" square	Grip O.T.	5000	850	2000	2710	1000-1600	1360-2170	22	9.98	12 <sup>1</sup> / <sub>4</sub>	311	2 <sup>3</sup> / <sub>16</sub>	56	3/4	19	58
● 2940B1**	No. 5 spline	Grip I.T.	5000	850	2000	2710	1000-1600	1360-2170	22	9.98	12 <sup>1</sup> / <sub>4</sub>	311	2 <sup>3</sup> / <sub>16</sub>	56	3/4	19	58
2940B2	1" square	Grip I.T.	5000	850	2000	2710	1000-1600	1360-2170	22	9.98	12 <sup>1</sup> / <sub>4</sub>	311	2 <sup>3</sup> / <sub>16</sub>	56	3/4	19	58
▲ 2940P2	1" square	Pistol	4000	810	2000	2710	1000-1600	1360-2170	22 <sup>7</sup> / <sub>8</sub>	10.4	9 <sup>7</sup> / <sub>8</sub>	251	2 <sup>3</sup> / <sub>16</sub>	56	3/4	19	58

\*Approx. 15% torque reduction.

\*\*No. 5 spline 1<sup>5</sup>/<sub>8</sub>" OD 14 teeth.

Performance figures are at 90 psi (620 kPa) air pressure.

O.T.: Outside Trigger

I.T.: Inside Trigger

# 1½" Class Impacttools



● 2950B7



▲ 5980A1

## Features

### Series 2945 and 2950

- Twin-hammers mean more power per pound
- Direct drive for fast rundown
- Durable epoxy-coated motor housing
- Plated ductile iron hammer case
- Pressure-feed impact mechanism lubrication
- Two-piece motor housing

### Model 5980A1

- Precision ball and cam impact mechanism

## Standard Equipment

### Series 2945

- 1/2" NPT inlet
- Straight dead handle
- Plated hammer case
- Built-in lubricator
- Integral muffler

### Series 2950

- 1/2" NPT inlet
- Straight dead handle
- Plated hammer case
- Built-in lubricator
- Integral muffler

### Model 5980A1

- ¾" NPT inlet
- Aluminum hammer case
- Built-in lubricator
- Horizontal eyebolt
- Vertical eyebolt

## Equipment at Extra Price

### Series 2945 and 2950

- Piped-away exhaust muffler kit No. 2940-KM184
- Horizontal hanger kit No. 2950-K366

### Series 5980A1 and 5982A1

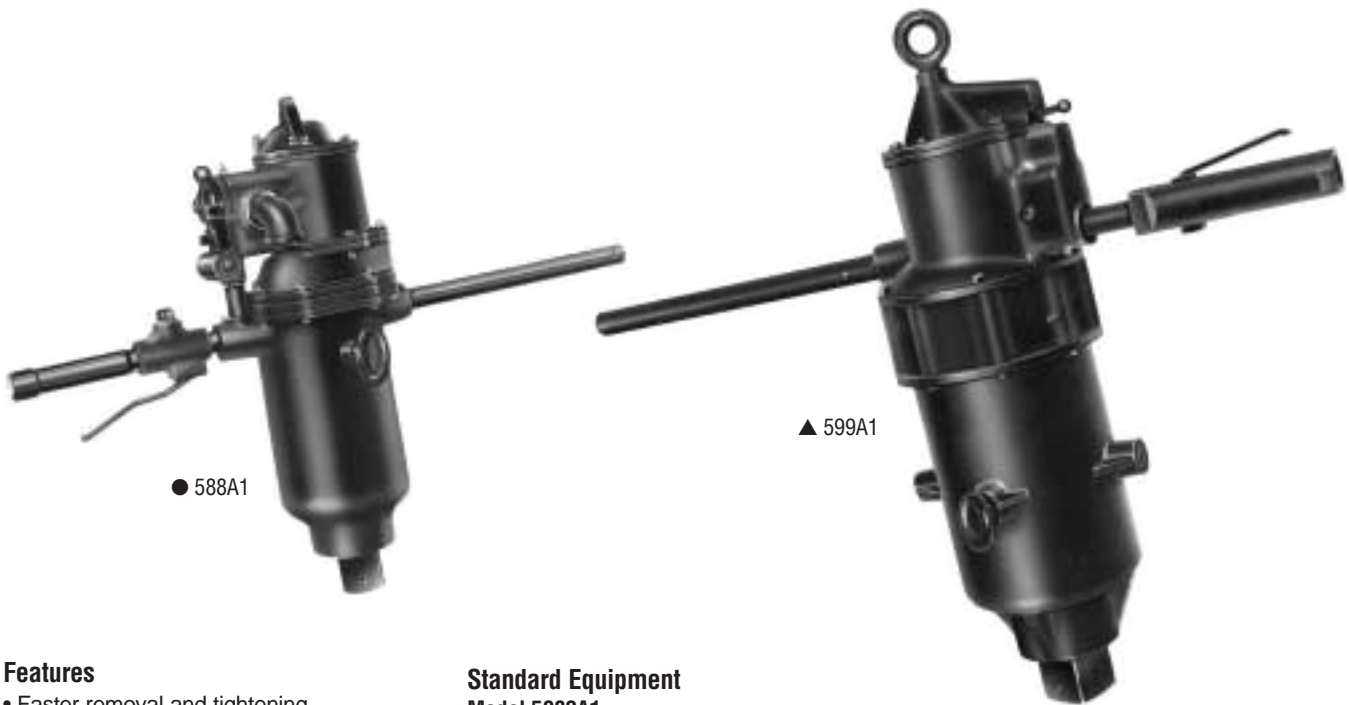
- Dual grip handle No. 5980-48

Model	Drive Description	Handle	Free Speed rpm	Impacts per minute	Maximum Torque		Recomm. Torque Range		Weight, less socket		Length, less socket		Side to Center Distance		Size Hose Recomm. CFM		
					ft.-lb.	Nm	ft.-lb.	Nm	lb.	kg	in.	mm	in.	mm	in.	mm	
2945A7	1½" square	Grip-O.T.	4000	650	2400	3264	1400-1800	1900-2440	30	13.6	13¾	349	2½	64	¾	19	65
2945B1*	No. 5 spline	Grip-I.T.	4000	650	2400	3264	1400-1800	1900-2440	30	13.6	13¾	349	2½	64	¾	19	65
2945B7	1½" square	Grip-I.T.	4000	650	2400	3264	1400-1800	1900-2440	30	13.6	13¾	349	2½	64	¾	19	65
2950A7	1½" square	Grip-O.T.	3750	650	3000	4080	1600-2500	2170-3390	32⅝	14.8	14½	368	2½	64	¾	19	70
2950B1	No. 5 spline	Grip-I.T.	3750	650	3000	4080	1600-2500	2170-3390	32⅝	14.8	14½	368	2½	64	¾	19	70
● 2950B7	1½" square	Grip-I.T.	3750	650	3000	4080	1600-2500	2170-3390	32⅝	14.8	14½	368	2½	64	¾	19	70
▲ 5980A1	1½" square	Lever	830	1000	10,000	13,560	2300-5500	3119-7460	88	39.9	23	584	3⅛	78	1	25	138

Performance figures are at 90 psi (620 kPa) air pressure.  
\*No. 5 spline 1⅝" OD 14 teeth.

O.T.: Outside Trigger  
I.T.: Inside Trigger

# 2½" to 3½" Class Impacttools



● 588A1

▲ 599A1

## Features

- Faster removal and tightening of large (4" [102 mm] and larger) fasteners
- Precision ball and cam impact mechanism
- Portable, easy to handle or suspend
- Model 599A1 is the most powerful Impacttool in the world

## Standard Equipment

### Model 5982A1

- Lever throttle
- ¾" NPT inlet
- Aluminum hammer case
- Side exhaust
- Dead handle
- Horizontal eyebolt
- Vertical eyebolt

### Model 588A1

- Lever throttle
- 1" NPT inlet
- Cast iron hammer case
- Dead handle
- Built-in lubricator
- Horizontal eyebolt
- Vertical hanger

### Model 599A1

- Lever throttle
- 1¼" NPT inlet
- Cast iron hammer case
- Dead handle
- Built-in lubricator
- Horizontal eyebolt
- Vertical eyebolt

## Equipment at Extra Price

### Model 5982A1

- Horizontal hanger  
ILA582A1-D366

Model	Drive Description	Handle	Free Speed rpm	Impacts per minute		Maximum Torque		Recomm. Torque Range		Weight, less socket		Length, less socket		Side to Center Distance in. mm	Size Hose Recomm. in. mm	CFM
				ft.-lb.	Nm	ft.-lb.	Nm	lb.	kg	in.	mm					
5982A1	2½" square	Lever	830	850	20,000	27,120	4000-10,000	5424-13,560	120	54.5	25⅜	645	3½	89	1 25	130
● 588A1	2½" square	Lever	355	550	50,000	67,800	12,000-25,000	16,270-33,900	215	97.5	26⅝	676	4	101	1 25	155
▲ 599A1	3½" square	Lever	295	500	80,000	108,500	26,000-42,000	35,250-57,000	599	272	37½	952	6¾	171	1½	38 375

Performance figures are at 90 psi (620 kPa) air pressure.

# Impactool Selection Guide

This chart will assist you in recommending a particular Impactool for a specific application. The figures used are based on 70% of the tension proof load of a given size and grade bolt. For example, a Grade 5 bolt has a proof load of 94,200 psi (649,509 kPa). A 1/2"-13 UNC Grade 5 bolt has a tensile stress area — the cross section at the root of the thread — of 0.1282 in.<sup>2</sup> (82.7 mm<sup>2</sup>). So therefore it has an actual proof load of 12,076 lbs. (53,715 newtons). 70% of this proof load is 8453 lbs. (14,523 newtons). By looking at the chart, we find that in order to put 8450 lbs. (37,586 newtons) of tension on the 1/2" (13 mm) UNC Grade 5 bolt, we must apply 70 ft.-lbs. (94.9 Nm) torque. To do this, we recommend the Series 2906 Impactool.

It should be remembered that 70% of the proof load is normally the amount of tension needed to assure a properly tightened joint.

Bolt Grade	Bolt Diameter, in.		1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1	1 1/8	1 1/4
	Bolt Diameter, mm		6	8	10	11	13	14	16	19	22	25	29	32
	Hex Size, Inches	Max.	1/2	19/32	11/16	25/32	7/8	31/32	11/16	11/4	17/16	15/8	113/16	2
		Min.	3/8	15/32	9/16	21/32	3/4	27/32	15/16	11/8	15/16	11/2	111/16	17/8
<b>Grade 1</b>	Torque	ft.-lbs.	3	6	11	18	28	43	55	97	155	230	340	480
		Nm	4.07	8.14	14.9	24.4	38	58.3	74.6	132	210	312	461	651
	Impactool Recommended		2902	2902	2902	2903	2903	2903	2906	2908	2908	2925	2925	2934
	Tension	lbs.	730	1,210	1,800	2,460	3,280	4,200	5,200	7,000	10,600	14,000	18,200	23,000
		kN	3.24	5.38	8.01	10.9	14.6	18.7	23.1	31.1	47.1	62.3	80.9	102
<b>Grade 5</b>	Torque	ft.-lbs.	8	16	28	46	70	110	140	250	405	600	770	1,080
		Nm	10.8	21.7	38	62.4	95	149	190	339	549	814	1,044	1,464
	Impactool Recommended		2902	2902	2902	2903	2906	2906	2908	2925	2925	2934	2934	2940
			2904	2904	2904	2904	2904	2903	2906	2908	1734	1734		
	Tension	lbs.	1,900	3,100	4,600	6,350	8,450	10,900	13,500	20,000	27,400	36,000	41,000	52,000
		kN	8.4	13.8	20.4	28.2	37.6	48.5	60	89	122	160	182	231
<b>ASTM-A325</b>	Torque	ft.-lbs.							200	355	570	850	1,060	1,495
		Nm							271	481	773	1,153	1,437	2,027
	Impactool Recommended								2925	2934	2934	2934	2940	2945
									2908	2925	1734	1734		
	Tension	lbs.							19,000	28,000	39,000	51,000	56,000	71,000
		kN							44.5	124	173	227	249	316
<b>Grade BB ASTM-A354</b>	Torque	ft.-lbs.	8	15	27	43	66	106	131	234	376	565	830	1,170
		Nm	10.8	20.3	36.6	58.3	89.5	144	178	317	510	766	1,125	1,586
	Impactool Recommended		2902	2902	2902	2903	2903	2906	2908	2925	2925	2934	2934	2940
			2904	2904	2904	2904	2904	2906	2908	2906	2908	2925	1734	
	Tension	lbs.	1,780	2,930	4,340	5,950	7,950	10,190	12,660	18,700	25,870	33,940	44,240	56,000
		kN	7.9	13	19.3	26.5	35.4	45.3	56.3	83.1	115	151	196	249
<b>Grade BC ASTM-A354</b>	Torque	ft.-lbs.	10	20	35	56	86	138	173	306	495	742	1,090	1,530
		Nm	13.6	27.1	47.5	75.9	117	187	234	415	671	1,006	1,478	2,075
	Impactool Recommended		2902	2902	2903	2906	2906	2906	2908	2925	2934	2934	2940	2945
			2904	2904	2904	2904	2904	2904	2906	2906	2925	1734		
	Tension	lbs.	2,340	3,850	5,700	7,815	10,430	13,380	16,610	24,550	33,960	44,550	58,070	73,500
		kN	10.4	17.1	25.3	34.8	46.4	59.5	74	109	151	198	258	327
<b>Grade 8 ASTM-A354</b>	Torque	ft.-lbs.	11	23	40	65	99	159	198	350	566	848	1,245	1,750
		Nm	14.9	31.2	54.2	88.1	134	216	268	475	767	1,150	1,688	2,373
<b>Grade BD</b>	Impactool Recommended		2902	2902	2903	2903	2906	2906	2908	2925	2934	2934	2940	2950
			2904	2904	2904	2904	2904	2904	2904	2906	2906	2925	1734	
	Tension	lbs.	2,740	4,400	6,510	8,930	11,920	15,290	18,980	28,050	38,800	50,900	66,360	84,000
		kN	12.2	19.6	28.9	39.7	53	68	84.4	125	172	226	295	374
<b>ASTM-A490</b>	Torque	ft.-lbs.							250	435	715	1,070	1,580	2,125
		Nm							339	590	970	1,451	2,142	2,882
	Impactool Recommended								2925	2934	2934	2940	2945	2950
									2925	2925	1734			
	Tension	lbs.							24,000	35,000	49,000	64,000	80,000	102,000
		kN							107	156	218	285	356	454

Only certain Impacttools are shown in this chart. Compare the required torque shown in this chart with torque range figures shown in the Impacttool specifications tables to select other suitable tools.

Bolt Grade	Bolt Diameter, in.		1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>2</sub>	1 <sup>5</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>4</sub>	2	2 <sup>1</sup> / <sub>4</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>4</sub>	3	3 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>4</sub>	4
	Bolt Diameter, mm		35	38	41	44	51	57	64	70	76	83	89	95	102
	Hex Size, Inches		Max. 2 <sup>3</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>8</sub>	2 <sup>9</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	3 <sup>7</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>4</sub>	4 <sup>5</sup> / <sub>8</sub>	5	5 <sup>3</sup> / <sub>8</sub>	5 <sup>3</sup> / <sub>4</sub>	6 <sup>1</sup> / <sub>8</sub>
	Min.		2 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>4</sub>	2 <sup>7</sup> / <sub>16</sub>	2 <sup>5</sup> / <sub>8</sub>	3	3 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>2</sub>	4 <sup>7</sup> / <sub>8</sub>	5 <sup>1</sup> / <sub>4</sub>	5 <sup>5</sup> / <sub>8</sub>	6
<b>Grade 1</b>	Torque	ft.-lbs.	660	860											
		Nm	895	1,166											
	Impacttool Recommended		2934	2940											
			1734												
	Tension	lbs.	28,400	34,600											
		kN	126	154											
<b>Grade 5</b>	Torque	ft.-lbs.	1,470	1,950											
		Nm	1,933	2,644											
	Impacttool Recommended		2945	2950											
	Tension	lbs.	64,000	77,000											
		kN	285	342											
<b>ASTM-A325</b>	Torque	ft.-lbs.	1,960	2,600											
		Nm	2,658	3,526											
	Impacttool Recommended		2950	5980	These bolts are used on structural steel applications. Torque and tension values are based on running the nut beyond the proof load of the bolt by the turn of the nut method. For detailed information consult the bolt manufacturer.										
	Tension	lbs.	85,000	103,000											
		kN	378	458											
<b>Grade BB ASTM-A354</b>	Torque	ft.-lbs.	1,580	2,080	2,700	3,400	5,150	7,500	10,300	13,100	17,100	21,800	27,500	34,000	41,300
		Nm	2,142	2,820	3,661	4,610	6,983	10,170	13,967	17,764	23,188	29,561	37,290	46,104	56,003
	Impacttool Recommended		2945	2950	5980	5980	5982	5982	588	588	588	599	599	599	599
	Tension	lbs.	69,050	83,550	99,680	116,480	155,120	199,360	248,640	285,080	341,780	403,725	470,400	542,850	620,025
		kN	307	371	443	518	690	887	1,106	1,268	1,520	1,796	2,092	2,414	2,758
<b>Grade BC ASTM-A354</b>	Torque	ft.-lbs.	2,075	2,440	3,545	4,465	6,785	9,815	13,600	16,550	21,645	27,700	34,760	42,980	52,360
		Nm	2,814	3,309	4,807	6,054	9,200	13,309	18,442	22,442	29,351	37,561	47,134	58,281	71,000
	Impacttool Recommended		2950	5980	5980	5980	5982	5982	588	588	588	599	599	599	599
	Tension	lbs.	90,630	109,620	130,830	152,880	203,950	261,660	326,340	361,100	432,910	517,690	595,840	687,610	787,370
		kN	403	488	582	680	907	1,164	1,452	1,606	1,926	2,303	2,650	3,058	3,493
<b>Grade 8 ASTM-A354</b>	Torque	ft.-lbs.	2,375	3,135											
		Nm	3,220	4,251											
<b>Grade BD</b>	Impacttool Recommended		2950	5980											
	Tension	lbs.	103,570	125,330											
		kN	461	557											
<b>ASTM-A490</b>	Torque	ft.-lbs.	2,780	3,700											
		Nm	3,770	5,017											
	Impacttool Recommended		5980	5980	These bolts are used on structural steel applications. Torque and tension values are based on running the nut beyond the proof load of the bolt by the turn of the nut method. For detailed information consult the bolt manufacturer.										
	Tension	lbs.	121,000	148,000											
		kN	538	658											