

TOOLS UNLIMITED

PRESENTS

A PREMIUM HAND TOOL LINE

EQUIVELANT TO

PROTO SK ARMSTRONG

But WITHOUT THE HIGH PRICE

URREA

PROFESSIONAL TOOLS

URREA

INDUSTRIAL WRENCHES

INDUSTRIAL WRENCH SETS



312

BLACK ADJUSTABLE WRENCHES



314

BLACK STRIKING WRENCHES



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BLACK STRUCTURAL WRENCHES



318

BLACK COMBINATION WRENCHES



320

URREA industrial tools are specially designed and manufactured to be used on the toughest jobs that are frequently required in the metallurgical, petroleum, construction and heavy machinery industries, etc. One of the principal characteristics of these tools is the "Black" finish and coating that protects them from corrosion.

Industrial wrenches are tools for tightening or loosening nuts, bolts and other fasteners where the application of greater force or torque is necessary.

URREA also offers specialty industrial wrenches, such as structural wrenches and offset wrenches, especially for installing or removing machinery components such as truck chassis bolts, rapidly removing and aligning nuts or bolts from pipe flanges or structures, etc. These wrenches have a conical tang that permits the proper alignment of holes in order to be able to insert or clamping screws or bolts.

Another specialty of URREA industrial wrenches are striking wrenches, which are designed to produce high torque pressure when struck, in order to remove or loosen a very tight nut or bolt.

The wrenches presented in this chapter are called industrial wrenches because they are designed and intended for work in heavy and specialized industry such as FOD (foreign object debris). When controlled torque tension is required, consult our impact sockets and accessories section for tools that work in conjunction with torque multiplier tools such as those presented in chapter 7.

URREA industrial wrenches:

- Offer a long line of more than 180 industrial wrenches.
 - Open-ended, 6 point (hexagonal) or 12 point (double hexagon).
 - Black Adjustable Wrenches.
 - Black Flat Striking Wrenches.
 - Black Offset Striking Wrenches.
 - Black Structural Wrenches.
 - Black Combination Wrenches.

- Black Open End Wrenches.
- Fractional and metric system sizes.
- End sizes from 1/4" to 6" and 7 mm to 130 mm.
- A wide variety of shapes and designs is presented for manual action and striking.
- Grouped and combined in more than 5 sets presented in practical cases that allow them to be transported and kept organized.
- Manufactured from high-quality micro-alloy steel, hot forged for greater strength. Precision machined and heat-treated to provide the best combination of hardness, tensile strength and torque strength.



- URREA Industrial wrench ends incorporate the SUPER DRIVE® design to make them even tougher.
- All URREA industrial wrenches have a resistant blued finish (in the case of FOD applications, we recommend using wrenches with blued finish to avoid the loss of coating particles).
 - Comply with national and international, American and European standards.
 - The image of quality is reinforced by stamping each tool permanently and indelibly with the country of origin. This stamp complies with ASME / ANSI standards and the regulations of the Federal Trade Commission of the United States of America.

The information presented in this chapter is organized in the following manner:

- **Technical standards.**
- **Super Drive design.**
- **Manufacturing process.**
- **Quick selection guide.**
- **Detailed product specifications.**
- **Safety recommendations.**

INDUSTRIAL WRENCH VARIETY AND CODE GUIDE

			RANGE OF SIZES, MAXIMUM END OPENING		
	7XXPS	Black adjustable wrenches heavy duty	1 5/16"	to	1 1/2"
	7XXS	Black adjustable wrenches	1/2"	to	2 7/16"
	712SC	Black structural adjustable wrenches	1 15/32"	to	1 15/32"

			SIZE RANGES		
	27XXSW	12-point standard BLACK flat striking wrenches	1 1/16"	to	6"
	27XXSWH	6-point standard BLACK flat striking wrenches	5/8"	to	3 7/8"
	27XXSWM	12-point metric BLACK flat striking wrenches	24mm	to	130mm
	26XXSW	12-point standard BLACK offset striking wrenches	1 1/16"	to	3 1/8"
	26XXSWM	12-point metric BLACK offset striking wrenches	32mm	to	80mm
	C9XXA or B	Standard BLACK open end structural wrenches	5/8"	to	2"
	26XX	12-point standard BLACK box end structural wrenches	13/16"	to	26/32"
	12XXB	BLACK fractional combination wrenches	1/4"	to	1 1/4"
	12XXMB	BLACK metric combination wrenches	7mm	to	21mm



EXPLANATORY GUIDE FOR ICONOGRAPHY

12-point end (double hexagon) fractional

6-point end (hexagonal) metric

SUPER DRIVE

Adjustable wrench end

6-point end (hexagonal) fractional

12-point end (double hexagon)

Open-end fractional

BLACK Blued finish

12-point end (double hexagon) metric

6-point end (hexagonal)

Open-end metric

Vinyl Pouch

quality starts with



URREA Professional Tools received the ISO 9000 certification in November 1998 and updated to ISO 9001: 2000 certification in February 2004. This certification represents our constant commitment to maintain our operating and product manufacturing standards.



Visit our website: www.urrea.com



URREA manufactures tools in accordance with product technical standards.

A product technical standard is a document that specifies design and manufacturing guidelines. This ensures the adequate performance of products under the conditions required by users, and which are issued by organizations and associations of a particular character or government.

The only organization to issue international standards is known as ISO (International Organization for Standardization), which develops the ISO 9000 series regarding quality systems, but it also issues product technical standards. In the United States, various associations issue or have issued standards, such as GSA/US FEDERAL, ASME, ANSI, SAE and ISO, and in Europe, the DIN (DIN – Deutsches Institut für Normung e.V.), the German Institute for Standardization, which are different organizations and commissions dedicated to promoting standardization and quality in products marketed in Germany.

The Federal standards for hand tools are no longer being updated and are being taken over by ASME, and the same thing is occurring with standards that used to be issued by ANSI.

Currently, ASME standards for hand tools are initially reviewed by committees made up of different tool manufacturers, users and marketers, and subsequently approved and issued by ASME.

SAE standards (especially those applicable to the aerospace industry) are very strict, usually demanding tools with smaller dimensions and greater strength.

STANDARDS APPLICABLE TO INDUSTRIAL WRENCHES

AS954 Rev E "Wrenches, Hand, Twelve point, high strength, thin wall"

B107.6, "Wrenches, combination (fractional and metric series)"
 B107.8M, "Wrenches, Adjustable"
 B107.9, "Wrench, box end (fractional and metric series)"
 B107.17M, "Gages, Wrench openings, reference"

ISO 1085: "Assembly tools for screws and nuts - Double ended wrenches - Size pairing"
 ISO 6787: "Assembly tools for screws and nuts - adjustable wrenches"
 ISO 7738: "Assembly tools for screws and nuts- Combination wrenches - Lengths of wrenches and maximum thickness of heads"
 ISO 10103: "Assembly tools for screws and nuts - Double headed, flat and offset, box wrenches - length of wrenches and thickness of the heads"

Deutsches Institut für Normung e.V.

DIN3111:1982-11 "Box wrenches, single end; test torques series A"
 DIN3113:1984-11 "Combination wrenches with equal openings; test torque series A and C"
 DIN3117:1988-05 "Adjustable wrenches, open end"

GGG-W-636 "Wrenches (Box, open, and combination)"
 GGG-W-631 "Wrenches, adjustable; Open-end, Auto And Monkey"
 GGG-W-316 "Gages, Wrenches, Opening"

SPECIFICATIONS FOR THE DESIGN AND MANUFACTURE OF INDUSTRIAL WRENCHES

One relevant aspect of compliance with ASME standard B 107.6 regarding wrenches is marking, because it is through this process that a tool can be identified by the user, and supported and guaranteed by the manufacturer.

ASME Marking B107.6, B107.8M, B107.9

"Wrenches shall be marked on each side with their respective nominal size nearest the ends in a permanent manner with the name of the manufacturer or seller. The brand and the country of origin should be marked in a legible and permanent manner."

CALCULATION OF WRENCH END OPENINGS ASME B107.17M

To ensure that wrench end openings are the proper size to fit the nuts they will be used on, the wrenches are inspected during the production process using the GO, NO GO system.

The GO is the minimum correct measurement for a wrench; to test this measurement, tempered steel hexagons called GAUGES are manufactured according to the nominal size of the wrench end to be manufactured, and should fit freely into the wrench end; if the smallest sized gauge does not fit into the wrench end, it indicates that the wrench end is smaller than the correct minimum size, and it is rejected.

The NO-GO is the maximum correct measurement for a wrench; to test this measurement, a GAUGE with the maximum measurement is manufactured, which should not fit into the wrench end, because this would indicate that the wrench end is larger than the correct maximum size, and it would be rejected.

To determine the GO and NO-GO of the Gauge, "C" (measurement between planes) as a function of "W" (nominal size). The following formulas are used where GO and NO-GO are applicable.

Formula for calculating GO in inches:	
$c = W + (0.005W + 0.001) + (0.005W - 0.004) + 0.0003$	+0.0000
	Tolerance
	-0.0002
C = measurement between GO planes on the GAUGE W = nominal wrench size	

Formula for calculating NO-GO in inches:	
$C = W + (0.005W + 0.001) + (0.005W + 0.004) + 0.0005$	+0.0000
	Tolerance
	-0.0002
C = measurement between NO-GO planes on the GAUGE W = nominal wrench size	

Formula for calculating GO in millimeters:	
$C = W + (0.005W + 0.025) + (0.005W + 0.102) + 0.008$	+0.0000
	Tolerance
	-0.0006
C = measurement between GO planes on the GAUGE W = nominal wrench size	

Formula for calculating NO-GO in millimeters:	
$C = W + (0.005W + 0.025) + (0.005W + 0.102) + 0.013$	+0.0000
	Tolerance
	-0.0006
C = measurement between NO-GO planes on the GAUGE W = nominal wrench size	



Example:
Calculate the **GO** and **NO-GO** measurements for the 1/2" GAUGE

First, we convert the fraction into decimal notation in order to use thousandths of an inch:

$$1/2" = 0.500 \text{ thousandths of an inch.}$$

Using the corresponding formula, we calculate the following:

GO 1/2"	
$c = 0.500 + [((0.005 \times 0.500) + 0.001) + ((0.005 \times 0.500) - 0.004)] + 0.0003$	
$c = 0.500 + [(0.0025 + 0.001) + (0.0025 - 0.004)] + 0.0003$	
$c = 0.500 + [0.0035 - 0.0015] + 0.0003$	
$c = 0.500 + 0.002 + 0.0003$	
c = 0.5023"	

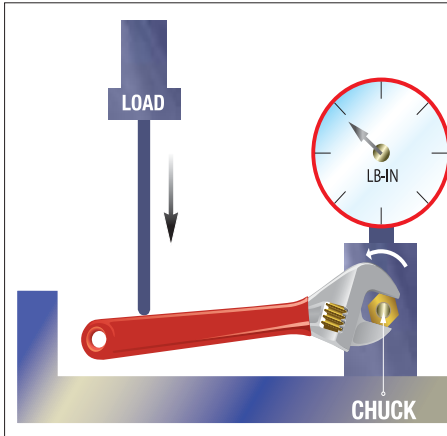
NO GO 1/2"	
$C = 0.500 + [((0.005 \times 0.500) + 0.001) + ((0.005 \times 0.500) + 0.004)] + 0.0005$	
$C = 0.500 + [(0.0025 + 0.001) + (0.0025 + 0.004)] + 0.0005$	
$C = 0.500 + [0.0035 + 0.0065] + 0.0005$	
$C = 0.500 + 0.0100 + 0.0005$	
C = 0.5105"	

GO 12mm	
$c = 12 + [((0.005 \times 12) + 0.025) + ((0.005 \times 12) - 0.102)] + 0.0008$	
$c = 12 + [(0.06 + 0.025) + (0.06 - 0.102)] + 0.0008$	
$c = 12 + [0.085 - 0.042] + 0.0008$	
$c = 12 + 0.043 + 0.0008$	
c = 12.05mm	

NO GO 12mm	
$C = 12 + [((0.005 \times 12) + 0.025) + ((0.005 \times 12) + 0.102)] + 0.0008$	
$C = 12 + [(0.06 + 0.025) + (0.06 + 0.102)] + 0.0008$	
$C = 12 + [0.085 + 0.162] + 0.0008$	
$C = 12 + 0.247 + 0.0008$	
C = 12.25mm	

LOAD TEST FROM ADJUSTABLE WRENCHES

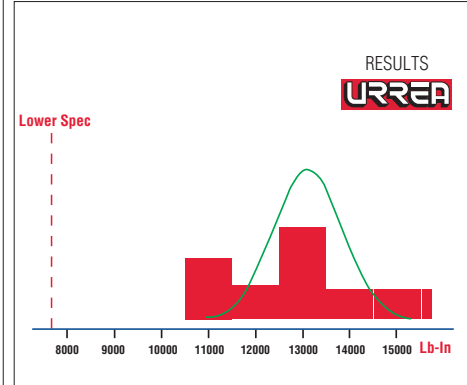
LOAD TEST METHOD



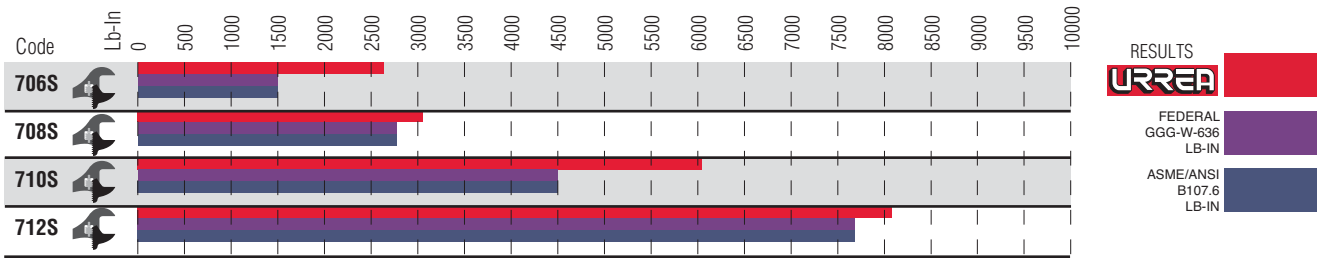
To ensure proper wrench performance, there are testing methods for ensuring mechanical resistance to torsion and flexion.

LOAD TEST. A testing mechanism is used through which a perpendicular force is applied to the handle end of the wrench. The adjustable end of the wrench is attached to a hexagonal chuck, the hardness of which should be no less than 55° Rockwell C. The force should be applied in a range not exceeding 90° per minute and sustained for a minimum of 10 seconds. The wrench is considered to have failed when a permanent deformity is produced in the handle or a fracture occurs in the body or any of its parts.

STATISTICAL TEST OF LOAD READINGS TAKEN FROM URREA ADJUSTABLE WRENCHES

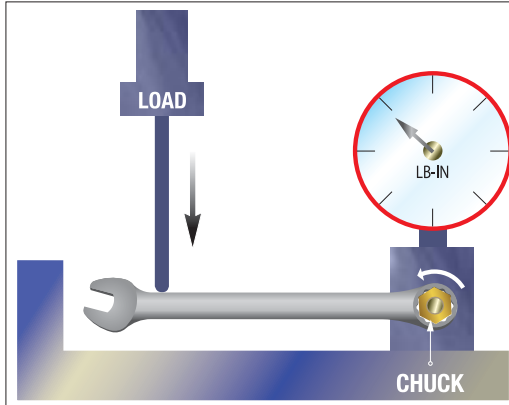


BLACK ADJUSTABLE WRENCH PERFORMANCE



STANDARD SIZES

SIZE IN	FIGURE APPLICABLE	STANDARD	TOTAL LENGTH (UNITS)		OPENING TOTAL MIN. JAW (UNITS)	MAXIMUM THICKNESS (UNITS)			SET MOVABLE JAW (UNITS)	LOAD TEST BENDING MOMENT MINIMUM		HARDNESS °RC
			MINIMUM	MAXIMUM		JAW TIP	HEAD	PIN		LB-PG	KG-CM	
4	704S	ASME/ANSI (B107.8)	3.500	4.500	0.504	0.172	0.375	0.188	0.007	600	691	40-50
		FEDERAL (GGG-W-631)	3.500	4.500	0.510	0.172	0.375	0.188	0.007	600	691	40-50
		NOM (NOM-0-106)	3.500	4.500	0.510	0.177	0.394	0.196	0.019	---	---	40-50
		DIM 3112	3.937	4.327	0.510	---	---	---	0.009	292	---	---
6	706S	ASME/ANSI (B107.8)	5.500	6.500	0.756	0.250	0.408	0.250	0.008	1452	1672	40-50
		FEDERAL (GGG-W-631)	5.500	6.500	0.760	0.250	0.406	0.250	0.008	1450	1670	40-50
		NOM (NOM-0-106)	5.500	6.500	0.748	0.314	0.452	0.255	0.019	---	480	40-50
		DIM 3112	5.905	6.497	0.708	---	---	---	0.011	752	---	---
8	708S	ASME/ANSI (B107.8)	7.500	8.500	0.947	0.312	0.531	0.312	0.008	2700	3109	40-50
		FEDERAL (GGG-W-631)	7.500	8.500	0.947	0.313	0.531	0.313	0.008	2700	3109	40-50
		NOM (NOM-0-106)	7.500	8.500	0.944	0.354	0.570	0.314	0.019	---	800	40-50
		DIM 3112	7.814	8.484	0.905	---	---	---	0.011	1593	---	---
10	710S	ASME/ANSI (B107.8)	9.500	10.500	1.133	0.406	0.625	0.359	0.009	4500	5182	40-50
		FEDERAL (GGG-W-631)	9.500	10.500	1.135	0.406	0.625	0.359	0.009	4500	5182	40-50
		NOM (NOM-0-106)	9.500	10.500	1.062	0.472	0.688	0.393	0.019	---	1200	40-50
		DIM 3112	9.892	10.433	1.102	---	---	---	0.011	2.832	---	---
12	712S	ASME/ANSI (B107.8)	11.500	12.500	1.321	0.500	0.750	0.438	0.010	7650	8810	40-50
		FEDERAL (GGG-W-631)	11.500	12.500	1.321	0.500	0.750	0.438	0.010	7650	8810	40-50
		NOM (NOM-0-106)	11.500	12.500	1.259	0.610	0.905	0.452	0.019	---	1375	40-50
		DIM 3112	11.811	12.404	1.338	---	---	---	0.011	4.558	---	---
15	715S	ASME/ANSI (B107.8)	14.500	15.500	1.698	0.625	1.000	0.688	0.012	15000	17275	40-50
		FEDERAL (GGG-W-631)	14.500	15.500	1.698	0.625	1.000	0.688	0.012	15000	17275	40-50
		NOM (NOM-0-106)	---	---	---	---	---	---	---	---	---	44-48
		DIM 3112	---	---	---	---	---	---	---	8.142	---	---
18	718S	ASME/ANSI (B107.8)	17.500	19.000	2.062	0.718	1.218	0.750	0.015	20000	23033	40-50
		FEDERAL (GGG-W-631)	17.500	19.000	2.062	0.719	1.218	0.750	0.012	20000	23033	40-50
		NOM (NOM-0-106)	---	---	---	---	---	---	---	---	---	---
		DIM 3112	---	---	---	---	---	---	---	12.125	---	---
24	724S	ASME/ANSI (B107.8)	23.500	25.000	2.438	0.906	1.438	0.875	0.018	25000	28791	40-50
		FEDERAL (GGG-W-631)	23.500	25.000	2.438	0.906	1.438	0.875	0.015	25000	28791	40-50
		NOM (NOM-0-106)	---	---	---	---	---	---	---	---	---	---
		DIM 3112	---	---	---	---	---	---	---	---	---	---

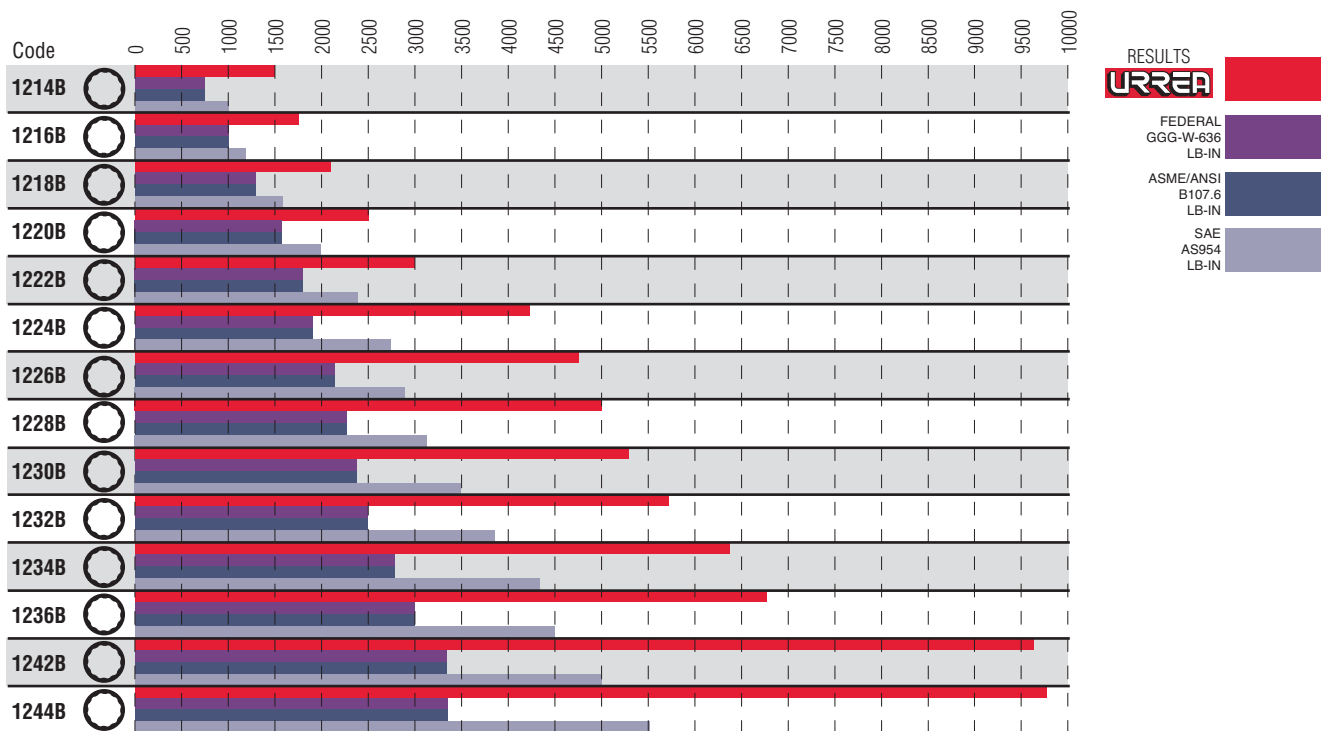


To ensure proper BLACK combination wrench performance, there are testing methods for ensuring mechanical resistance to torsion and flexion.

LOAD TEST. A testing mechanism is used through which a perpendicular force is applied to the handle end of the wrench. The adjustable end of the wrench is attached to a hexagonal chuck, the hardness of which should be no less than 55° Rockwell C. The force should be applied in a range not exceeding 90° per minute and sustained for a minimum of 10 seconds. The wrench is considered to have failed when a visible permanent distortion is produced in the handle, when a permanent deformation occurs in the box head greater than 5° with respect to the handle, or when the nominal size of the box end varies by 0.002" (for 5/32" to 1" wrenches) or 0.003" (for 1 1/16" to 2 1/4" wrenches) Any fracture in the wrench or the box end head is considered a failure of the wrench.

LOAD TEST, ASME STANDARD B107.6, B107.8M, B107.9

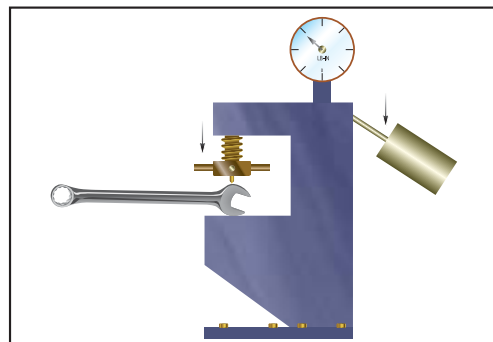
PERFORMANCE OF BLACK COMBINATION WRENCH BOX END IN INCHES



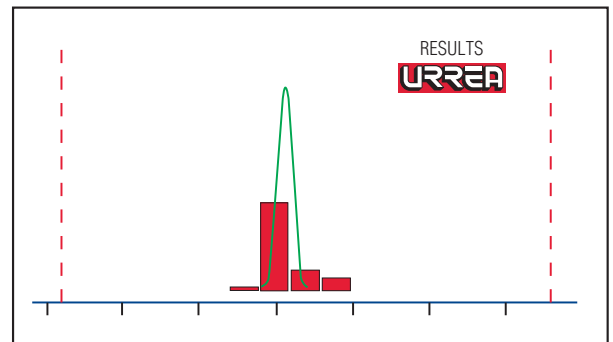
HARDNESS TEST, ASME STANDARD B107.6, B107.8M, B107.9

Wrenches must be heat-treated in order to obtain a hardness of between 38 and 55 HRc (Rockwell C). For this purpose, a Rockwell hardness tester is used, which has a diamond point to which a 150 Kilogram load is applied (ASME 18). The results of the test depend directly on penetration of the diamond point into the item tested. If it is necessary to prepare the testing surface, the amount of material removed must not exceed 0.007" (0.18mm) in the area in contact with the diamond point.

HARDNESS TEST



STATISTICAL TEST OF HARDNESS READINGS TAKEN FROM URREA INDUSTRIAL WRENCHES

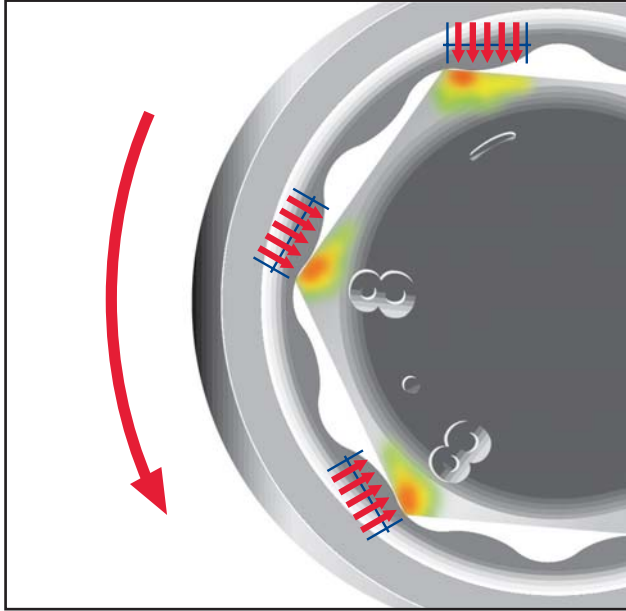


ADVANTAGES OF THE DESIGN



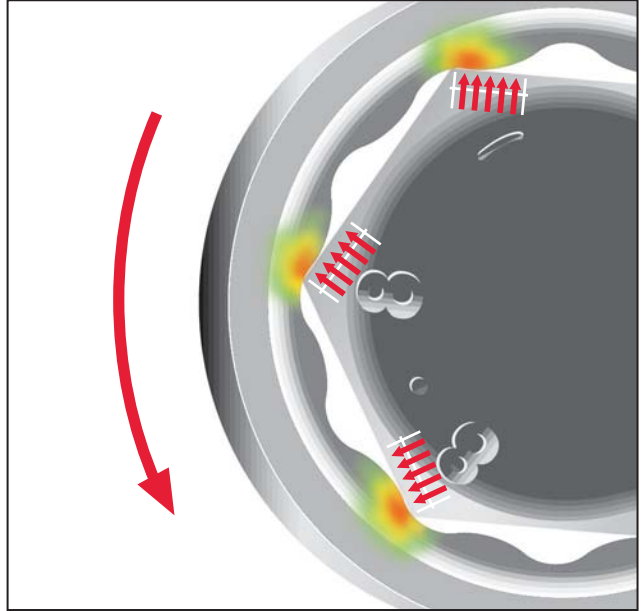
URREA wrenches, which are made in accordance with the specifications of the SAE-AS954 Standard, incorporate this design into their box ends, providing better tools that place less stress on screw heads and nuts while simultaneously permitting the application of more force without damage to fastener components. This SUPER DRIVE technology is incorporated into our sockets as well as our wrenches. Due to its design, it makes work easier by providing the following benefits:

EFFECT ON NUTS OR BOLT HEADS



- When torque is applied, stress is distributed over a larger area of the active sides of the nut, more towards the center instead of the corners. The vertices of the box end disappear and the force is distributed along the rounded or "lobed" corners. These features meet AS954 Standards (SAE) and provide a greater area of contact, requiring less effort to get the same amount of torque.
- Contact of approximately 0.045" in length on each active side of the nut or bolt.
- The force applied is not concentrated on the edges, which are potential failure points, but is instead distributed uniformly over the entire head of the nut or bolt.

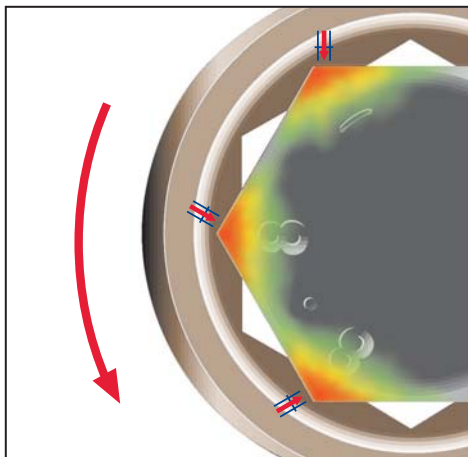
EFFECT ON WRENCHES



- It is possible to reduce the outside diameter of the box end, which increases its ability to apply torque without failing and permits access to narrow spaces.
- The box end is easier to fit into nut or bolt.
- Permits the turning of nuts and bolts that are misshapen or have deformed edges.
- Minimizes accident risks by preventing stripped nuts or bolts.
- Permits the use of greater torque on low-strength bolts.
- Will not deform nuts or bolts.

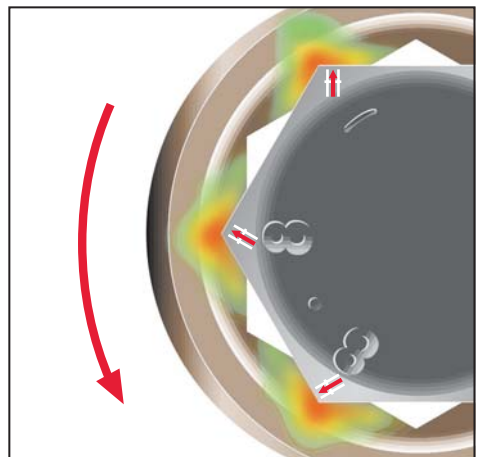
DISADVANTAGES OF THE CONVENTIONAL DESIGN

EFFECT ON NUTS OR BOLT HEADS



- Contact of only approximately 0.005" in length on each active side of the nut or bolt.
- When torque is applied, the stress is concentrated mainly on the corners of the nut, which causes the corners to become rounded or stripped.
- Corners are potential failure points where fractures due to concentration of stress tend to occur.

EFFECT ON WRENCHES





1. Receiving Raw Material



2. Steel Cutting



3. Hot Forging



4. Punching



5. Broaching



6. Marking



7. Heat Treatment



8. Shot Peening



9. Bluing

6

**BLACK ADJUSTABLE
WRENCHES
HEAVY DUTY**

Maximum jaw opening (inches)	Length (inches)

CODE	314	
710PS	1 5/16"	10"
712PS	1 1/2"	12"

BLACK FRACTIONAL WRENCHES

SIZE	STRIKING WRENCHES			STRUCTURAL WRENCHES		
	FLAT	OFFSET				
	315	316	317	318	319	320
1/4"						
5/16"						
3/8"						
7/16"						
1/2"						
9/16"						
5/8"						
11/16"						
3/4"						
13/16"						
7/8"						
15/16"						
1"						
1 1/16"						
1 1/8"						
1 1/4"						
1 5/16"						
1 3/8"						
1 7/16"						
1 1/2"						
1 5/8"						
1 11/16"						
1 3/4"						
1 13/16"						
1 7/8"						
2"						
2 1/8"						
2 3/16"						
2 1/4"						
2 5/16"						
2 3/8"						
2 1/2"						
2 9/16"						
2 5/8"						
2 3/4"						
2 15/16"						
3"						
3 1/8"						
3 3/8"						
3 1/2"						
3 3/4"						
3 7/8"						
4 1/8"						
4 1/4"						
4 1/2"						
4 5/8"						
4 3/4"						
5"						
5 3/8"						
5 3/4"						
6"						

BLACK METRIC WRENCHES

SIZE	STRIKING WRENCHES		STRUCTURAL WRENCHES
	FLAT	OFFSET	
	316	317	319
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
24			
27			
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50			
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60			
65			
70			
75			
80			
85			
90			
95			
100			
105			
110			
115			
120			
125			
130			

**BLACK ADJUSTABLE
WRENCHES**

Maximum jaw opening (inches)	Length (inches)

CODE	314	
704S	1/2"	4"
706S	15/16"	6"
708S	1"	8"
710S	1 1/8"	10"
712S	1 5/16"	12"
715S	1 11/16"	15"
718S	2 1/16"	18"
724S	2 7/16"	24"

BLACK ADJUSTABLE WRENCH SETS

			795\$
	CODE	SIZE	312
	708S	8"	
710S	10"		
712S	12"		

BLACK COMBINATION WRENCH SETS IN FRACTIONAL AND METRIC SIZES

			1200FB		
			1200HB		
			1200FMB		
CODE	SIZE		312	312	313
1210B	5/16"				
1212B	3/8"				
1214B	7/16"				
1216B	1/2"				
1218B	9/16"				
1220B	5/8"				
1222B	11/16"				
1224B	3/4"				
1226B	13/16"				
1228B	7/8"				
1230B	15/16"				
1232B	1"				
1234B	1 1/16"				
1236B	1 1/8"				
1240B	1 1/4"				
1207MB	7 mm				
1208MB	8 mm				
1209MB	9 mm				
1210MB	10 mm				
1211MB	11 mm				
1212MB	12 mm				
1213MB	13 mm				
1214MB	14 mm				
1215MB	15 mm				
1216MB	16 mm				
1217MB	17 mm				
1218MB	18 mm				
1219MB	19 mm				
1220MB	20 mm				
1221MB	21 mm				

6



the tool that start with U



URREA

Superior
Quality
Affordable Tools

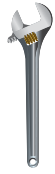
Visit our website: www.urrea.com

BLACK ADJUSTABLE WRENCH SETS IN POUCH

795S

3 PIECES

BLACK ADJUSTABLE WRENCH SET IN POUCH



CODE	MAXIMUM OPENING		LENGTH	
	in	mm	in	mm
708S	1"	25.4	8"	203.2
710S	1 1/8"	28.5	10"	254.0
712S	1 5/16"	33.3	12"	304.8
E506	Pouch			



BLACK



BLACK FRACTIONAL COMBINATION WRENCH SETS IN POUCH

1200FB

15 PIECES

BLACK COMBINATION WRENCH SET IN POUCH

CODE	END SIZES		LENGTH	
	in	mm	in	mm
1210B	5/16"	7.9	5 1/2"	139.7
1212B	3/8"	9.5	6"	152.4
1214B	7/16"	11.1	6 1/2"	165.1
1216B	1/2"	12.7	7"	177.8
1218B	9/16"	14.2	7 1/2"	190.5
1220B	5/8"	15.8	8 1/16"	204.7
1222B	11/16"	17.4	8 7/8"	225.4
1224B	3/4"	19.0	9 3/4"	247.6
1226B	13/16"	20.6	10 5/8"	269.8
1228B	7/8"	22.2	11 1/2"	292.1
1230B	15/16"	23.8	12 3/8"	314.3
1232B	1"	25.4	13 1/4"	336.5
1234B	1 1/16"	26.9	14 1/8"	358.7
1236B	1 1/8"	28.5	15 3/8"	390.5
1240B	1 1/4"	31.7	16 3/4"	425.4
E104	Pouch			



BLACK

SUPER DRIVE



1200HB

7 PIECES

BLACK COMBINATION WRENCH SET IN POUCH

CODE	END SIZES		LENGTH	
	in	mm	in	mm
1212B	3/8"	9.5	6"	152.4
1214B	7/16"	11.1	6 1/2"	165.1
1216B	1/2"	12.7	7"	177.8
1218B	9/16"	14.2	7 1/2"	190.5
1220B	5/8"	15.8	8 1/16"	204.7
1222B	11/16"	17.4	8 7/8"	225.4
1224B	3/4"	19.0	9 3/4"	247.6
E111	Pouch			



BLACK

SUPER DRIVE



BLACK METRIC COMBINATION WRENCH SET IN POUCH

1200FMB

15 PIECES

BLACK METRIC COMBINATION WRENCH SET IN POUCH

CODE	END SIZES		LENGTH
	mm	in	mm
*1207MB	7	5"	127.0
1208MB	8	5 1/2"	139.7
1209MB	9	6"	152.4
1210MB	10	6 1/2"	165.1
1211MB	11	6 1/2"	165.1
1212MB	12	7"	177.8
1213MB	13	7"	177.8
1214MB	14	7 1/2"	190.5
1215MB	15	7 1/2"	190.5
1216MB	16	8 1/16"	204.7
1217MB	17	8 7/8"	225.4
1218MB	18	8 7/8"	225.4
1219MB	19	9 3/4"	247.6
1220MB	20	10 5/8"	269.8
1221MB	21	10 5/8"	269.8
E104	Pouch		



6

* 6-point

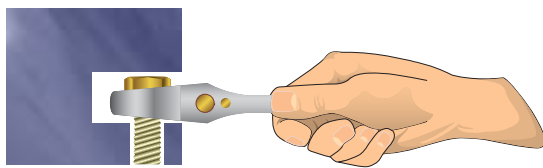
BLACK ADJUSTABLE WRENCHES

BLACK adjustable wrenches are very versatile tools because the size of their opening can be changed by opening or closing a movable jaw using an adjustable thumbwheel system, which makes it possible to tighten or loosen almost any type of nut or bolt.

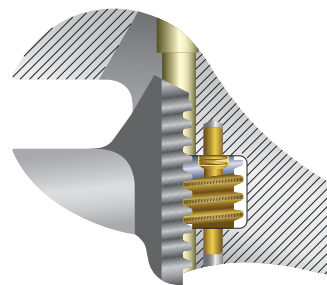
When using an adjustable wrench, it is recommended that force always be applied by pulling and not pushing, so that the load is always on the fixed jaw of the wrench.

The BLACK finish protects against corrosion and prevents the loss of small chrome particles as has been described in previous pages. This finish is of special importance in FOD applications (foreign object debris) such as in the food, pharmaceutical and chemical processing industries where debris can contaminate the process.

High resistance exceeding the values of ASME/ANSI and FEDERAL nominal standards.



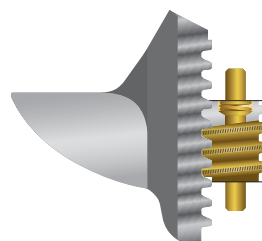
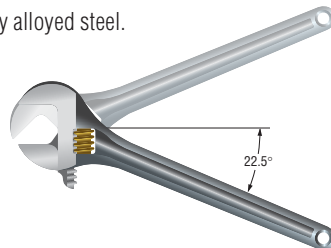
Maneuverability and easy access approach for hard to reach nuts and bolts.



Jaws are provided with radio to reduce stress concentration. Tight assembly for reducing tolerances.

Manufactured from high quality alloyed steel.

The 22.5° head angle with respect to the handle permits more comfortable access to the nut or bolt.



Reduced play between the worm gear and grooves in the lower jaw, which translates into greater security in handling

BLACK ADJUSTABLE WRENCHES HEAVY DUTY

Openings with rounded edges for avoiding stress concentration and providing better adjustment. Slimmer jaws for access in narrower spaces. Thumbwheel manufactured from high quality alloyed steel. Extra-wide jaws permit use on a wide variety of nuts and bolts. Manufactured from high quality alloyed steel. Arrow indicates turning direction when applying force.

7XXPS

INDUSTRIAL HEAVY DUTY USO PESADO INDUSTRIAL

CODE	MAXIMUM OPENING		LENGTH		TORQUE STRENGTH ANSI B1 7.8		
	in	mm	in	mm	grs	lbs	Lb-in
710PS	1 5/16"	33.3	10"	254.0	440	0.97	4500
712PS	1 1/2"	38.1	12"	304.8	753	1.66	7650

STANDARDS: ASME B107.8
FEDERAL GGG-W-631
ISO 6787 DIN 3117

BLACK

Wider aperture for larger fastener.

Ergonomic handle is wider for more comfortable grip.



Large jaw opening

Measurement scale for more precision.

BLACK ADJUSTABLE WRENCHES

7XXS

CODE	MAXIMUM OPENING		LENGTH		TORQUE STRENGTH ANSI B1 7.8M		TYPE	
	in	mm	in	mm	grs	lbs		Lb-in
704S	1/2"	12.7	4"	101.6	50	1.32	600	1
706S	15/16"	23.8	5 45/64"	144.8	109	3.20	1450	1
708S	1"	25.4	7 29/64"	189.3	244	5.95	2700	1
710S	1 1/8"	28.5	9 19/64"	236.1	380	9.92	4500	1
712S	1 5/16"	33.3	11 9/64"	282.9	660	16.87	7650	1
715S	1 11/16"	42.8	15"	381.0	1483	33.07	15000	2
718S	2 1/16"	52.3	18"	457.2	2309	44.09	20000	2
724S	2 7/16"	61.9	24"	609.6	3392	55.12	25000	2

STANDARDS: FEDERAL GGG-W-631
ISO 6787 DIM 3117

BLACK

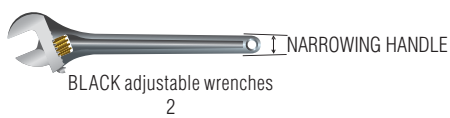
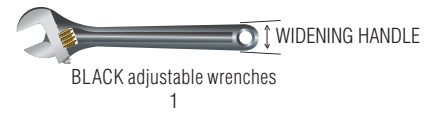
BLACK finish for corrosion resistance.

Hot forged body with high strength steel and maximum ergonomics.



712S

715S



BLACK STRUCTURAL ADJUSTABLE WRENCHES 16"

712SC

CODE	MAXIMUM OPENING		LENGTH		TORQUE STRENGTH	
	in	mm	in	mm	grs	lbs
712SC	1 15/32"	37.2	16 1/8"	409.5	1400	3.08

STANDARDS: ASME B107.8M

BLACK

Large jaw opening fits all nuts and bolts up to 1 1/2 inches



Square jaw opening provides greater strength and better fit

Eliminates the need for carrying several fixed size wrenches

This wrench consists of a box end and a striking area. Unlike a box end, obstruction or combination wrench, this wrench is designed to be struck. Its primary applications are manufacturing and maintenance operations involving heavy machinery and highly corrosive environments, which affect nut and bolt threads. The handle has a convenient radius that holds the striking area on a higher plane than the box end plane, making it more comfortable and safe to strike the wrench. The BLACK finish protects the wrench from corrosion and prevents the eventual loss of chrome particles when subjected to continuous striking.

12-POINT FRACTIONAL BLACK FLAT STRIKING WRENCHES

27XXSW

CODE	DIMENSION OF OPENING		L		C		D		Scales	
	in	mm	in	mm	in	mm	in	mm	grs	lbs
2717SW	1 1/16"	26.97	9 1/2"	241.3	2 15/64"	56.9	55/64"	22.0	1100	1.32
2718SW	1 1/8"	28.57	9 1/2"	241.3	2 15/64"	56.9	55/64"	22.0	1100	1.32
2720SW	1 1/4"	31.75	9 1/2"	241.3	2 15/64"	56.9	55/64"	22.0	1100	1.32
2721SW	1 5/16"	33.33	9 1/2"	241.3	2 15/64"	56.9	55/64"	22.0	1100	1.32
2722SW	1 3/8"	34.92	9 1/2"	241.3	2 15/64"	56.9	55/64"	22.0	1100	1.32
2723SW	1 7/16"	36.49	11 21/64"	287.7	3"	76.2	63/64"	25.1	1950	1.76
2724SW	1 1/2"	38.10	11 21/64"	287.7	3"	76.2	63/64"	25.1	1950	1.76
2726SW	1 5/8"	41.27	11 21/64"	287.7	3"	76.2	63/64"	25.1	1950	1.76
2727SW	1 11/16"	42.86	11 21/64"	287.7	3"	76.2	63/64"	25.1	1950	1.76
2728SW	1 3/4"	44.45	11 21/64"	287.7	3"	76.2	63/64"	25.1	1950	2.56
2729SW	1 13/16"	46.03	11 21/64"	287.7	3"	76.2	63/64"	25.1	1950	2.56
2730SW	1 7/8"	47.62	11 21/64"	287.7	3"	76.2	63/64"	25.1	1950	2.56
2732SW	2"	50.08	13 31/64"	342	3 47/64"	94.9	1 31/64"	37.8	4150	3.31
2734SW	2 1/8"	53.97	13 31/64"	342	3 47/64"	94.9	1 31/64"	37.8	4150	3.31
2735SW	2 3/16"	55.56	13 31/64"	342	3 47/64"	94.9	1 31/64"	37.8	4150	3.31
2736SW	2 1/4"	57.15	13 31/64"	342	3 47/64"	94.9	1 31/64"	37.8	4150	3.31
2737SW	2 5/16"	58.73	13 31/64"	342	3 47/64"	94.9	1 31/64"	37.8	4150	3.48
2738SW	2 3/8"	60.32	14 51/64"	376	4 7/64"	104.4	1 31/64"	37.8	4700	5.22
2740SW	2 1/2"	63.50	14 51/64"	376	4 7/64"	104.4	1 31/64"	37.8	4700	5.51
2741SW	2 9/16"	65.07	14 51/64"	376	4 7/64"	104.4	1 31/64"	37.8	4700	5.51
2742SW	2 5/8"	66.67	14 51/64"	376	4 7/64"	104.4	1 31/64"	37.8	4700	5.51
2744SW	2 3/4"	69.85	13"	330	4 5/16"	110	1 5/16"	33	3540	7.80
2747SW	2 15/16"	74.61	13"	330	4 5/16"	110	1 5/16"	33	3540	7.80
2748SW	3"	76.20	13"	330	4 5/16"	110	1 5/16"	33	3540	7.80
2750SW	3 1/8"	79.37	14 3/16"	360	4 15/16"	126	1 7/16"	36	3900	8.60
2754SW	3 3/8"	87.72	14 3/16"	360	4 15/16"	126	1 7/16"	36	3900	8.60
2756SW	3 1/2"	88.90	14 3/16"	360	4 15/16"	126	1 7/16"	36	3900	8.60
2760SW	3 3/4"	95.25	15 3/8"	390	5 9/16"	142	1 9/16"	40	6100	13.45
2762SW	3 7/8"	98.42	15 3/8"	390	5 9/16"	142	1 9/16"	40	6100	13.45
2766SW	4 1/8"	104.77	16 9/16"	420	6 1/8"	155	1 3/4"	45	7000	15.43
2768SW	4 1/4"	107.95	17 11/16"	450	6 11/16"	170	1 7/8"	48	9500	20.94
2772SW	4 1/2"	114.30	17 11/16"	450	6 11/16"	170	1 7/8"	48	9500	20.94
2774SW	4 5/8"	117.47	17 11/16"	450	6 11/16"	170	1 7/8"	48	9500	20.94
2776SW	4 3/4"	120.65	18 11/16"	475	7 1/4"	185	2 1/8"	54	11500	25.35
2780SW	5"	127	18 11/16"	475	7 1/4"	185	2 1/8"	54	11500	25.35
2786SW	5 3/8"	136.52	20 11/16"	525	8"	202	2 5/16"	58	13000	28.66
2792SW	5 3/4"	146.05	22 13/16"	580	8 7/8"	225	2 1/2"	64	19000	41.89
2796SW	6"	152.4	22 13/16"	580	8 7/8"	225	2 1/2"	64	19000	41.89

Twelve point designed for perfect adjustment between the nut and the tool.



Uniform molecular structure to provide greater strength.



STANDARDS:
FEDERAL GGG-W-636



Code 2732SW

URREA Black flat striking wrenches

In order to avoid stripping nuts stuck in heavy industry machinery or equipment, URREA Striking Wrenches are recommended which provides greater advantages such as:

- Their constitution and structure permit them to be struck hard in order to loosen nuts.
- When the wrench is struck, a vibration runs through the body of the bolt releasing the residues that cause the nut to stick, freeing it.
- The Flat design of these wrenches in particular (wrench end in line with respect to the wrench pin) permits their use in places where there are no objects or obstacles in the way.

6-POINT FRACTIONAL BLACK FLAT STRIKING WRENCHES

Mainly used on nuts or bolt heads with edge damage or that are stripped, providing better surface contact between the faces of the nuts or bolt heads and the wrench.

27XXSWH

CODE	DIMENSION OF OPENING		THREAD DIAMETER OF BOLT OR NUT		LENGTH		C		D		Scales	
	in	mm	in	mm	in	mm	in	mm	in	mm	grs	lbs
2710SWH	5/8"	15.8	7/16"	11.1	7 1/2"	191	1 31/64"	38	5/8"	16	650	1.32
2712SWH	3/4"	19.05	1/2"	12.7	7 1/2"	191	1 31/64"	38	5/8"	16	650	1.32
2714SWH	7/8"	22.22	9/16"	14.3	7 1/2"	191	1 31/64"	38	5/8"	16	650	1.32
2716SWH	1"	25.40	5/8"	15.9	9 1/2"	241.3	2 15/64"	56.9	55/64"	21.9	1100	1.32
2717SWH	1 1/16"	28.57	5/8"	15.9	9 1/2"	241.3	2 15/64"	56.9	55/64"	21.9	1100	1.32
2718SWH	1 1/8"	26.97	3/4"	19.1	9 1/2"	241.3	2 15/64"	56.9	55/64"	21.9	1100	1.32
2720SWH	1 1/4"	31.75	3/4"	19.1	9 1/2"	241.3	2 15/64"	56.9	55/64"	21.9	1100	1.32
2722SWH	1 3/8"	34.92	7/8"	22.2	9 1/2"	241.3	2 15/64"	56.9	55/64"	21.9	1100	1.76
2723SWH	1 7/16"	36.49	7/8"	22.2	11 21/64"	287.7	3"	76.2	63/64"	25.1	1950	1.76
2724SWH	1 1/2"	38.10	1"	25.4	11 21/64"	287.7	3"	76.2	63/64"	25.1	1950	1.76
2726SWH	1 5/8"	41.27	1"	25.4	11 21/64"	287.7	3"	76.2	63/64"	25.1	1950	1.76
2728SWH	1 3/4"	44.45	1 1/8"	28.6	11 21/64"	287.7	3"	76.2	63/64"	25.1	1950	3.53
2729SWH	1 13/16"	46.03	1 1/8"	28.6	11 21/64"	287.7	3"	76.2	63/64"	25.1	1950	3.53
2730SWH	1 7/8"	47.62	1 1/4"	31.8	11 21/64"	287.7	3"	76.2	63/64"	25.1	1950	3.53
2732SWH	2"	50.80	1 1/4"	31.8	13 31/64"	342	3 47/64"	94.9	31/64"	37.8	4150	3.53
2735SWH	2 3/16"	55.56	1 3/8"	34.9	13 31/64"	342	3 47/64"	94.9	1 31/64"	37.8	4150	3.53
2736SWH	2 1/4"	57.15	1 1/2"	38.1	13 31/64"	342	3 47/64"	94.9	1 31/64"	37.8	4150	3.53
2738SWH	2 3/8"	60.32	1 1/2"	38.1	14 13/16"	376	4 7/64"	104.3	1 31/64"	37.8	4700	3.53
2740SWH	2 1/2"	63.50	1 5/8"	41.3	14 13/16"	376	4 7/64"	104.3	1 31/64"	37.8	4700	5.22
2741SWH	2 9/16"	74.61	1 7/8"	47.6	14 13/16"	376	4 7/64"	104.3	1 31/64"	37.8	4700	5.51
2744SWH	2 3/4"	69.85	1 3/4"	44.5	11 13/16"	300	4"	102	1 3/16"	30	2,500	5.51
2747SWH	2 15/16"	74.61	1 7/8"	47.6	14 13/16"	375.9	4 7/64"	104.3	1 31/64"	37.8	3,540	7.80
2750SWH	3 1/8"	79.37	2"	50.8	13"	330	4 5/16"	110	1 5/16"	33	3,540	7.80
2756SWH	3 1/2"	88.90	2 1/4"	57.2	14 3/16"	360	4 15/16"	126	1 7/16"	36	3,900	8.60
2762SWH	3 7/8"	98.42	2 1/2"	63.5	15 3/8"	390	4 15/16"	126	1 7/16"	36	3,900	8.60

Six point striking wrenches are ideal for nuts with edge damage and recommended for tough jobs because of the greater surface contact with respect to the nut.



STANDARD: FEDERAL GGG-W-636

12-POINT METRIC BLACK FLAT STRIKING WRENCHES

Ordinary use for nuts in good shape.

27XXSWM

CODE	DIMENSION OF OPENING	LENGTH		C	D	Scales	
		in	mm			mm	mm
2724SWM	24	9 1/2"	241.3	56.9	21.9	1100	1.32
2727SWM	27	9 1/2"	241.3	56.9	21.9	1100	1.32
2730SWM	30	9 1/2"	241.3	56.9	21.9	1100	1.32
2732SWM	32	9 1/2"	241.3	56.9	21.9	1100	1.32
2736SWM	36	11 21/64"	287.7	76.2	25.1	1950	1.76
2741SWM	41	11 21/64"	287.7	76.2	25.1	1950	1.76
2746SWM	46	11 21/64"	287.7	76.2	25.1	1950	2.56
2750SWM	50	13 31/64"	342.3	94.9	37.8	4150	3.31
2755SWM	55	13 31/64"	342.3	94.9	37.8	4150	3.31
2760SWM	60	14 13/16"	375.9	104.3	37.8	4700	5.22
2765SWM	65	14 13/16"	375.9	104.3	37.8	4700	5.51
2770SWM	70	13"	330	33	110	3,200	7.05
2775SWM	75	13"	330	33	110	3,540	7.80
2780SWM	80	14 3/16"	360	38	126	3,900	8.60
2785SWM	85	14 3/16"	360	38	126	3,900	8.60
2790SWM	90	15 3/8"	390	38	142	5,000	11.02
2795SWM	95	15 3/8"	390	40	142	5,000	11.02
27100SWM	100	16 9/16"	420	45	155	7,000	15.43
27105SWM	105	16 9/16"	420	45	155	7,000	15.43
27110SWM	110	17 11/16"	450	48	170	7,000	15.43
27115SWM	115	17 11/16"	450	48	170	7,000	15.43
27120SWM	120	18 7/8"	475	54	182	7,000	15.43
27125SWM	125	18 3/4"	480	54	200	7,000	15.43
27130SWM	130	20 7/8"	530	58	202	7,000	15.43

Twelve point designed for perfect adjustment between the nut and the tool.



STANDARD: FEDERAL GGG-W-636

12-POINT FRACTIONAL BLACK OFFSET STRIKING WRENCHES

26XXSW

CODE	DIMENSION OF OPENING		LENGTH		C		D		E		Scales	
	in	mm	in	mm	in	mm	in	mm	in	mm	grs	lbs
2617SW	1 1/16"	26.9	8 1/2"	215.9	1 45/64"	43.2	5/8"	16.0	15/16"	23.8	790	1.74
2618SW	1 1/8"	28.5	8 1/2"	215.9	1 45/64"	43.2	5/8"	16.0	15/16"	23.8	778	1.72
2620SW	1 1/4"	31.7	10 3/4"	273.0	1 7/8"	47.8	13/16"	20.6	13/16"	30.2	1304	2.87
2621SW	1 5/16"	33.3	10 3/4"	273.0	1 7/8"	47.8	13/16"	20.6	13/16"	30.2	1287	2.84
2622SW	1 3/8"	34.9	10 3/4"	273.0	1 7/8"	47.8	13/16"	20.6	13/16"	30.2	1708	3.77
2623SW	1 7/16"	36.5	12"	304.8	2 3/16"	55.6	1"	25.4	1 1/2"	38.1	1708	3.77
2624SW	1 1/2"	38.1	12"	304.8	2 3/16"	55.6	1"	25.4	1 1/2"	38.1	1685	3.71
2626SW	1 5/8"	41.2	12 1/4"	311.1	2 13/32"	61.2	1 1/8"	28.7	1 1/2"	38.1	1970	4.34
2627SW	1 11/16"	42.8	12 1/4"	311.1	2 13/32"	61.2	1 1/8"	28.7	1 1/2"	38.1	1940	4.28
2628SW	1 3/4"	44.4	13 7/16"	341.3	2 21/32"	67.6	1 3/16"	30.2	1 9/16"	39.6	2697	5.95
2629SW	1 13/16"	46.0	13 7/16"	341.3	2 27/32"	72.1	1 1/4"	31.8	1 21/32"	42.2	2664	5.87
2630SW	1 7/8"	47.6	13 7/16"	341.3	2 27/32"	72.1	1 1/4"	31.8	1 21/32"	42.2	3041	6.70
2632SW	2"	50.8	13 7/16"	341.3	2 27/32"	72.1	1 1/4"	31.8	1 21/32"	42.2	2965	6.54
2634SW	2 1/8"	53.9	13 1/2"	342.9	3 3/8"	85.7	1 3/8"	34.9	2 1/8"	54.0	3492	7.70
2635SW	2 3/16"	55.5	13 1/2"	342.9	3 3/8"	85.7	1 3/8"	34.9	2 1/8"	54.0	3492	7.70
2636SW	2 1/4"	57.1	13 1/2"	342.9	3 3/8"	85.7	1 3/8"	34.9	2 1/8"	54.0	3447	7.60
2637SW	2 5/16"	58.7	14"	355.6	3 11/16"	93.7	1 1/2"	38.1	2 1/4"	57.2	3991	8.80
2638SW	2 3/8"	60.3	14"	355.6	3 11/16"	93.7	1 1/2"	38.1	2 1/4"	57.2	3900	8.60
2640SW	2 1/2"	63.5	15 1/4"	387.3	4 5/16"	109.5	1 3/4"	44.5	2 1/2"	63.5	6486	14.30
2641SW	2 9/16"	65.0	15 1/4"	387.3	4 5/16"	109.5	1 3/4"	44.5	2 1/2"	63.5	6395	14.10
2642SW	2 5/8"	66.6	15 1/4"	387.3	4 5/16"	109.5	1 3/4"	44.5	2 1/2"	63.5	6305	13.90
2644SW	2 3/4"	69.8	15 1/4"	387.3	4 5/16"	109.5	1 3/4"	44.5	2 1/2"	63.5	6168	13.60
2647SW	2 15/16"	74.6	16 1/2"	419.1	4 13/16"	122.2	2"	50.8	2 1/2"	63.5	8436	18.60
2648SW	3"	76.2	16 1/2"	419.1	4 13/16"	122.2	2"	50.8	2 1/2"	63.5	8164	18.00
2650SW	3 1/8"	79.3	16 1/2"	419.1	4 13/16"	122.2	2"	50.8	2 1/2"	63.5	8028	17.70



STANDARD:
FEDERAL GGG-W-636

When the wrench is struck, a vibration runs through the body of the bolt releasing the residues that cause the nut to stick, freeing it.



The Offset design of these wrenches in particular (wrench end in line with respect to the wrench pin) permits their use in places where there are no objects or obstacles in the way.



Their constitution and structure permit them to be struck hard in order to loosen nuts.

12-POINT METRIC BLACK OFFSET STRIKING WRENCHES

26XXSWM

CODE	DIMENSION OF OPENING		LENGTH		C		D		E		Scales	
	mm	in	mm	mm	mm	mm	mm	mm	mm	mm	grs	lbs
2632SWM	32	10 3/4"	273.0	47.8	20.6	30.2	1,304	2.87				
2633SWM	33	10 3/4"	273.0	47.8	20.6	30.2	1,304	2.87				
2634SWM	34	10 3/4"	273.0	47.8	20.6	30.2	1,287	2.84				
2636SWM	36	12"	304.8	55.6	25.4	38.1	1,708	3.77				
2641SWM	41	12 1/4"	311.1	61.2	28.7	38.1	1,970	4.34				
2646SWM	46	13 7/16"	341.3	67.5	30.2	39.6	2,664	5.87				
2650SWM	50	13 7/16"	341.3	72.1	31.7	42.1	2,965	6.54				
2655SWM	55	13 1/2"	342.9	85.7	34.9	53.7	3,492	7.70				
2660SWM	60	14"	355.6	94.4	38.1	56.1	3,900	8.60				
2665SWM	65	15 1/4"	387.3	109.5	44.4	63.8	6,395	14.10				
2670SWM	70	15 1/4"	387.3	109.5	44.4	63.8	6,168	13.60				
2675SWM	75	16 1/2"	419.1	122.2	50.8	66.0	8,028	17.70				
2680SWM	80	16 1/2"	419.1	122.2	50.8	66.0	8,028	17.70				



STANDARD:
FEDERAL GGG-W-636



Code 2632SW
URREA Black offset striking wrenches

In order to avoid stripping nuts stuck in heavy industry machinery or equipment, URREA Striking Wrenches are recommended.

These wrenches have a sturdy box end. The end of the handle is a conical bar that can be used as an alignment bar for centering holes during assembly operations. A typical application is the connection of flanged equipment, where the flanges are solid plate connections soldered on the ends of pipes with various drill holes located radially around the pipe. The handle has a convenient radius that holds the handle on a higher plane than the box end plane, making it more comfortable and safe to handle.

12-POINT FRACTIONAL BLACK BOX END STRUCTURAL WRENCHES

26XX

CODE	DIMENSION OF OPENING		LENGTH		D		E		F		Scales		TORQUE STRENGTH FEDERAL GGG-W-636
	in	mm	in	mm	in	mm	in	mm	in	mm	grs	lbs	
2613	13/16"	20.6	14 1/2"	368.3	1 1/16"	26.9	1 1/16"	26.9	1 1/16"	42.8	640	1.41	4500
2614	7/8"	22.2	12"	304.8	1 1/16"	26.9	1 1/8"	28.5	1 3/8"	34.9	335	0.74	5250
2615	15/16"	23.8	13 1/2"	342.9	1 3/16"	30.1	1 1/4"	31.7	1 9/16"	39.6	467	1.03	6000
2616	1"	25.4	13 1/2"	342.9	1 3/16"	30.1	1 1/4"	31.7	1 9/16"	39.6	412	0.91	7000
2617	1 1/16"	26.9	14 3/4"	374.6	7/8"	22.2	1 5/16"	33.3	1 11/16"	42.8	635	1.40	8000
2618	1 1/8"	28.5	14 3/4"	374.6	7/8"	22.2	1 5/16"	33.3	1 11/16"	42.8	626	1.38	9000
2620	1 1/4"	31.7	17"	431.8	1 5/16"	33.3	1 1/16"	26.9	1 7/16"	36.5	1007	2.22	10500
2621	1 5/16"	33.3	17"	431.8	1 1/16"	26.9	1 1/16"	26.9	1 7/16"	36.5	970	2.14	13000
2623	1 7/16"	36.5	21"	533.4	1 1/8"	28.5	1 5/16"	33.3	1 1/2"	38.1	1583	3.49	15000
2624	1 1/2"	38.1	21"	533.4	1 1/8"	28.5	1 5/16"	33.3	1 1/2"	38.1	1574	3.47	17500
2626	1 5/8"	41.2	21"	533.4	1 3/16"	30.1	1 5/8"	41.2	2 1/2"	63.5	2254	4.97	20000
2627	1 11/16"	42.8	21"	533.4	1 3/16"	30.1	1 5/8"	41.2	2 1/2"	63.5	2231	4.92	23000
2629	1 13/16"	46.0	23"	584.2	1 1/4"	31.7	1 11/16"	42.8	1 13/16"	46.0	2612	5.76	26000
2630	1 7/8"	47.6	23"	584.2	1 1/4"	31.7	1 11/16"	42.8	2 3/4"	69.8	2558	5.64	29000
2632	2"	50.8	24 1/2"	622.3	1 3/8"	34.9	1 13/16"	30.1	3"	76.2	3132	6.90	32000



The box end is set at an angle with respect to the body to facilitate connection of the nuts.

Handle end is forged with conical bar which also serves as an alignment bar.



The box end head is used to tighten nuts or bolt heads with greater torque.



Code 2632
URREA structural wrenches

May be used to align flanges, since the alignment can be performed using the offset tip of the tool. This tool is indispensable for any heavy industry such as petroleum, electrical plants, gas plants, etc.

BLACK FRACTIONAL OPEN END STRUCTURAL WRENCHES

These wrenches have a fixed end, commonly known as an open end. The end of the handle is a conical bar that can be used as an alignment bar for centering holes during assembly operations. The handle has a convenient radius that holds the handle on a higher plane than the open end plane, making it more comfortable and safe to handle.

C9XX

CODE	DIMENSION OF OPENING		LENGTH		D	E	F	TORSION		TORQUE STRENGTH FEDERAL GGG-W-636
	in	mm	in	mm				grs	lbs	
C903A	5/8"	15.8	11 3/4"	298.4	7/16"	3/4"	2 1/4"	335	0.74	2150
C903	11/16"	17.4	11 3/4"	298.4	7/16"	3/4"	2 1/4"	322	0.71	2500
C904A	3/4"	19.0	12"	307.9	7/16"	7/8"	1 7/8"	313	0.69	2900
C905A	13/16"	20.6	14 1/4"	361.9	9/16"	7/8"	2 1/4"	612	1.35	3600
C905	7/8"	22.2	14 1/2"	368.3	1/2"	1"	2 3/16"	585	1.29	4300
C905B	15/16"	23.8	14 1/4"	361.9	1/2"	15/16"	1 7/8"	617	1.36	4550
C906B	1"	25.4	14 1/2"	368.3	1/2"	1"	2 3/16"	544	1.20	5300
C907	1 1/16"	26.9	17"	431.8	5/8"	1 1/8"	2 7/16"	870	1.92	6000
C907A	1 1/8"	28.5	17"	431.8	5/8"	1 1/8"	2 7/16"	861	1.90	6700
C908	1 1/4"	31.7	19"	482.6	11/16"	1 1/4"	2 3/4"	1165	2.57	7700
C908A	1 5/16"	33.3	19"	482.6	11/16"	1 3/8"	2 3/4"	1183	2.61	9100
C909	1 7/16"	36.5	21"	533.4	3/4"	1 3/8"	3 1/8"	1651	3.64	10700
C909A	1 1/2"	38.1	21"	533.4	3/4"	1 1/2"	3 1/8"	1719	3.79	12200
C910	1 5/8"	41.2	23"	584.2	7/8"	1 1/2"	3 5/8"	2558	5.64	13900
C910A	1 11/16"	42.8	23"	584.2	7/8"	1 5/8"	3 5/8"	2376	5.24	15600
C911	1 13/16"	46.0	25"	635.0	1"	1 5/8"	4 7/16"	3637	8.02	17400
C911A	1 7/8"	47.6	25"	635.0	1"	1 5/8"	4 7/16"	3565	7.86	19200
C912	2"	50.8	25"	635.0	1"	1 5/8"	4 7/16"	3506	7.73	21600



Long 45° offset handle provides greater leverage and clearance for knuckles and obstructions.

Hardened tapered handle aligns bolts and rivet holes.



Openings are precision broached for proper fit.

BLACK METRIC OPEN END STRUCTURAL WRENCH

C909M

CODE	DIMENSION OF OPENING	LENGTH		D	E	F	TORSION		TORQUE STRENGTH FEDERAL GGG-W-636
	mm	in	mm				in	in	
C909M	36	1 3/8"	533.4	3/4"	1 3/8"	3 1/8"	1651	3.64	10700



BLACK combination wrenches are the same size on both ends, an open end (fixed open end) used to apply rapid, low torque force (driving), and a box end that allows the application of greater final torque force (tightening).

The **SUPER DRIVE** geometry permits the box end of the wrench to grip the nut or bolt hexagon by the side faces rather than the corners, which are potential points of failure.

The BLACK finish protects against corrosion because it is an integral part of the tool, consisting of an accelerated attack on the surface of the steel that provides corrosion resistance. This finish prevents the loss of chrome particles that can cause contamination or accidents in some industrial processes, such as in the case of the aeronautical industry or in the oil of electrical transformers.

This BLACK finish is of special importance in FOD applications (foreign object debris) such as in the food, pharmaceutical and chemical processing industries where debris can contaminate the process.

BLACK FRACTIONAL COMBINATION WRENCHES

12XXB

CODE	DIMENSION OF OPENING		LENGTH		B	C	D	C1	D1	TORQUE STRENGTH ANSI B1 7.6 Lb-in			
	in	mm	in	mm						grs	lbs	OPEN END	BOX END
*1208B	1/4"	6.3	5"	127.0	5/16"	5/8"	3/16"	7/16"	1/4"	31	0.07	67	220
1210B	5/16"	7.9	5 1/2"	139.7	3/8"	11/16"	3/16"	9/16"	1/4"	31	0.07	138	275
1212B	3/8"	9.5	6"	152.4	7/16"	13/16"	3/16"	9/16"	5/16"	40	0.09	275	605
1214B	7/16"	11.1	6 1/2"	165.1	1/2"	15/16"	1/4"	11/16"	5/16"	55	0.12	413	715
1216B	1/2"	12.7	7"	177.8	9/16"	1 1/16"	1/4"	3/4"	5/16"	74	0.16	550	1020
1218B	9/16"	14.2	7 1/2"	190.5	11/16"	1 3/16"	1/4"	7/8"	6/16"	95	0.21	770	1500
1220B	5/8"	15.8	8 1/16"	204.7	3/4"	1 5/16"	5/16"	15/16"	6/16"	115	0.25	1100	2200
1222B	11/16"	17.4	8 7/8"	225.4	13/16"	1 7/16"	5/16"	1"	7/16"	151	0.33	1375	2640
1224B	3/4"	19.0	9 3/4"	247.6	7/8"	1 9/16"	5/16"	1 1/8"	7/16"	186	0.41	1650	2860
1226B	13/16"	20.6	10 5/8"	269.8	1"	1 11/16"	3/8"	1 3/16"	1/2"	253	0.56	2200	3300
1228B	7/8"	22.2	11 1/2"	292.1	1 1/8"	1 13/16"	3/8"	1 5/16"	1/2"	302	0.67	2475	3630
1230B	15/16"	23.8	12 3/8"	314.3	1 1/8"	1 15/16"	3/8"	1 3/8"	9/16"	340	0.75	3025	4510
1232B	1"	25.4	13 1/4"	336.5	1 3/16"	2"	7/16"	1 1/2"	9/16"	417	0.92	3575	5390
1234B	1 1/16"	26.9	14 1/8"	358.7	1 1/4"	2 1/4"	7/16"	1 5/8"	5/8"	516	1.14	3850	5940
1236B	1 1/8"	28.5	15 3/8"	390.5	1 5/16"	2 1/4"	7/16"	1 11/16"	5/8"	558	1.23	4400	6490
1240B	1 1/4"	31.7	16 3/4"	425.4	1 1/2"	2 1/2"	1/2"	1 7/8"	11/16"	780	1.72	5775	7925



* 6-point



BLACK METRIC COMBINATION WRENCHES

12XXMB

CODE	DIMENSION OF OPENING		LENGTH		B	C	D	C1	D1	TORQUE STRENGTH ANSI B1 7.6 Lb-in		
	mm	in	mm	mm						mm	mm	mm
*1207MB	7	5"	127.0	7.54	15.4	4.5	10.64	6.0	21	0.05	70.8	238.9
1208MB	8	5 1/2"	139.7	9.52	17.8	4.7	13.81	6.8	30	0.07	132.7	265.5
1209MB	9	6"	152.4	11.12	20.6	5.3	15.03	7.8	35	0.08	185.8	354.0
1210MB	10	6 1/2"	165.1	13.10	23.8	6.0	17.24	8.2	50	0.11	274.3	628.3
1211MB	11	6 1/2"	165.1	13.10	23.8	6.0	17.24	8.2	57	0.13	407.1	708.0
1212MB	12	7"	177.8	15.08	27.6	6.5	19.58	8.6	57	0.13	433.6	805.3
1213MB	13	7"	177.8	15.08	27.6	6.5	19.58	8.6	73	0.16	548.7	1017.7
1214MB	14	7 1/2"	190.5	17.44	30.6	6.8	21.94	9.0	98	0.22	761.1	1398.3
1215MB	15	7 1/2"	190.5	17.44	30.6	6.8	21.94	9.0	108	0.24	920.4	1770.0
1216MB	16	8 1/16"	204.7	19.40	33.7	7.4	24.25	10.2	113	0.25	1097.4	2194.8
1217MB	17	8 7/8"	225.4	21.03	36.9	7.0	26.13	10.9	156	0.34	1230.1	2362.9
1218MB	18	8 7/8"	225.4	21.03	36.9	7.9	26.13	10.9	165	0.36	1371.1	2690.4
1219MB	19	9 3/4"	247.6	22.63	40.1	8.4	27.91	11.7	185	0.41	1646.1	2858.5
1220MB	20	10 5/8"	269.8	24.61	42.9	8.0	30.45	12.4	240	0.53	1920.4	3070.9
1221MB	21	10 5/8"	269.8	24.61	42.9	8.9	30.45	12.4	251	0.55	2194.8	3292.2



* 6-point



Code 1221 MB
URREA Black combination wrenches

The main characteristic of this type of wrench is the "Black" finish on the metal surface, which is obtained through accelerated oxidation of the micro-alloy steel, and provides the security of permitting no loss of coating material as occurs with finished chrome. This is vital in processes where this type of debris could put the processed material or the machinery itself at risk, such as: food processing, turbine repair.



URREA

INDUSTRIAL WRENCH SAFETY RECOMMENDATIONS




Never use a pipe or any extensions as a lever to increase the force applied by any wrench (unless it is designed for that purpose).



Always select the proper size wrench to avoid damage to tools.



Always apply force by pulling and not pushing.

6



Never expose a tool to excessive temperatures that could damage its structure.



Check your wrenches periodically and dispose of any that are defective.



Use a commercial lubricant for a seized nut.



Never strike the wrench opening to try to modify its size.



Always use safety glasses when working with tools.



Use the proper end of the wrench for the job you are doing.



Never use wrenches as hammers.



Never use solder or any other heat marking system on tools.