



LUDAL LTD

Manual Slack Adjusters



**PRODUCT
CATALOGUE**

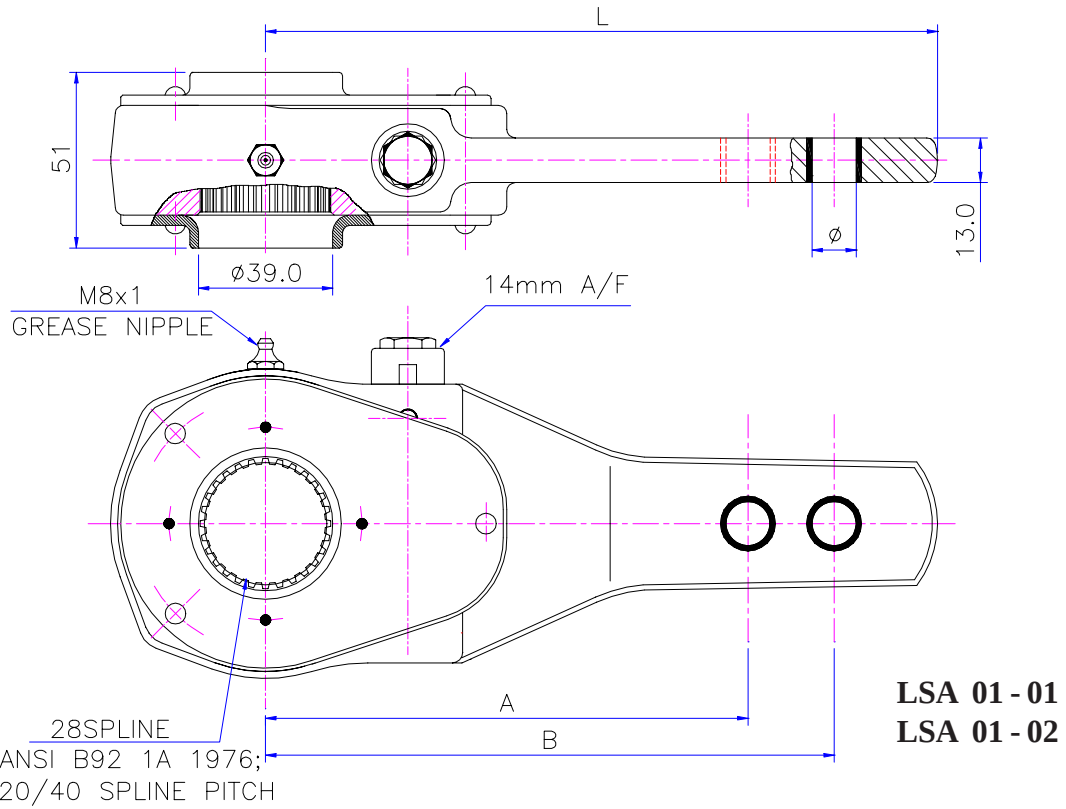
LUDAL

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NOTE :

1. ORIGINAL PART NUMBERS ARE FOR REFERENCE PURPOSE ONLY.
2. ALL DIMENSIONS ARE IN MILLIMETERS.
3. LUDAL - RESERVES THE RIGHTS TO MODIFY THE DESIGNS BASED ON MARKET REQUIREMENTS.

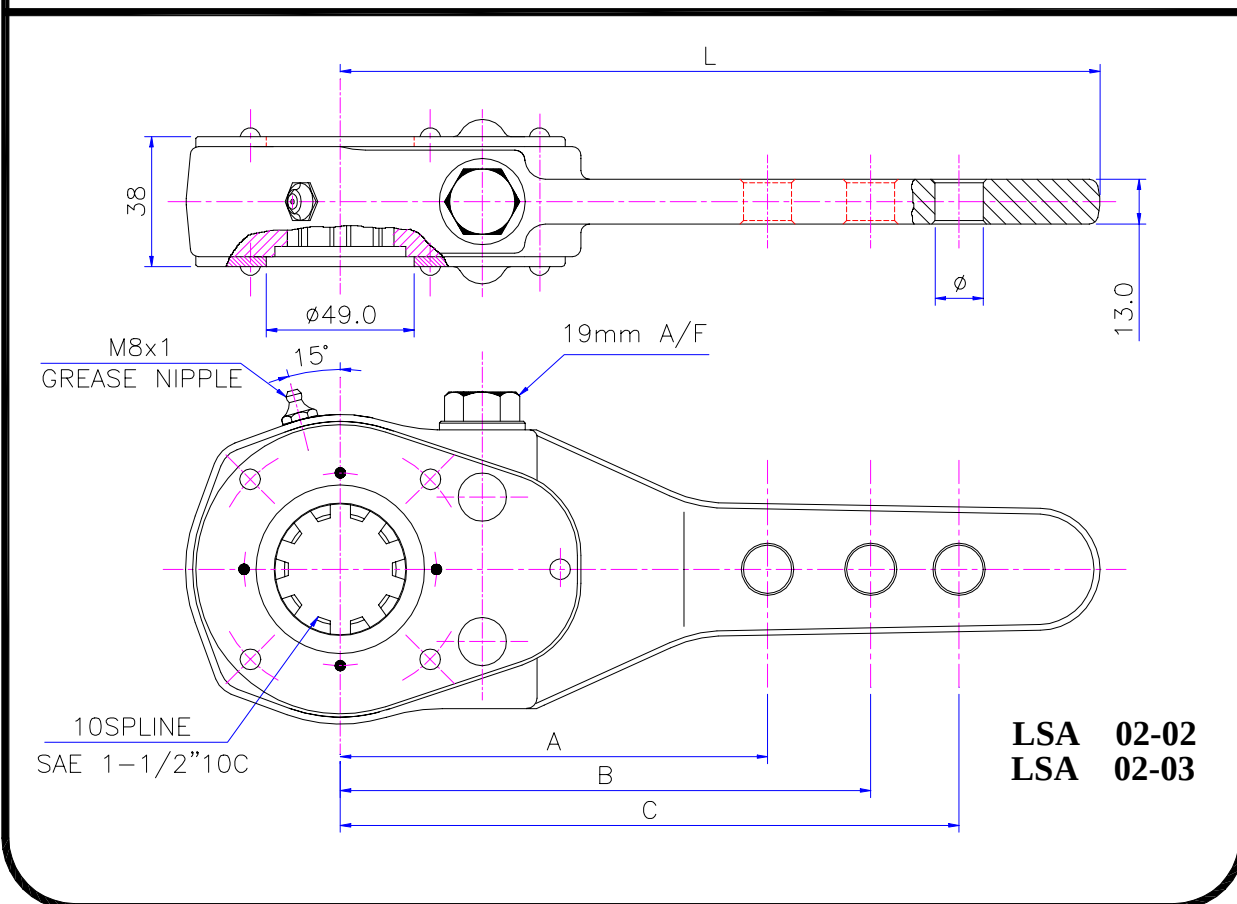
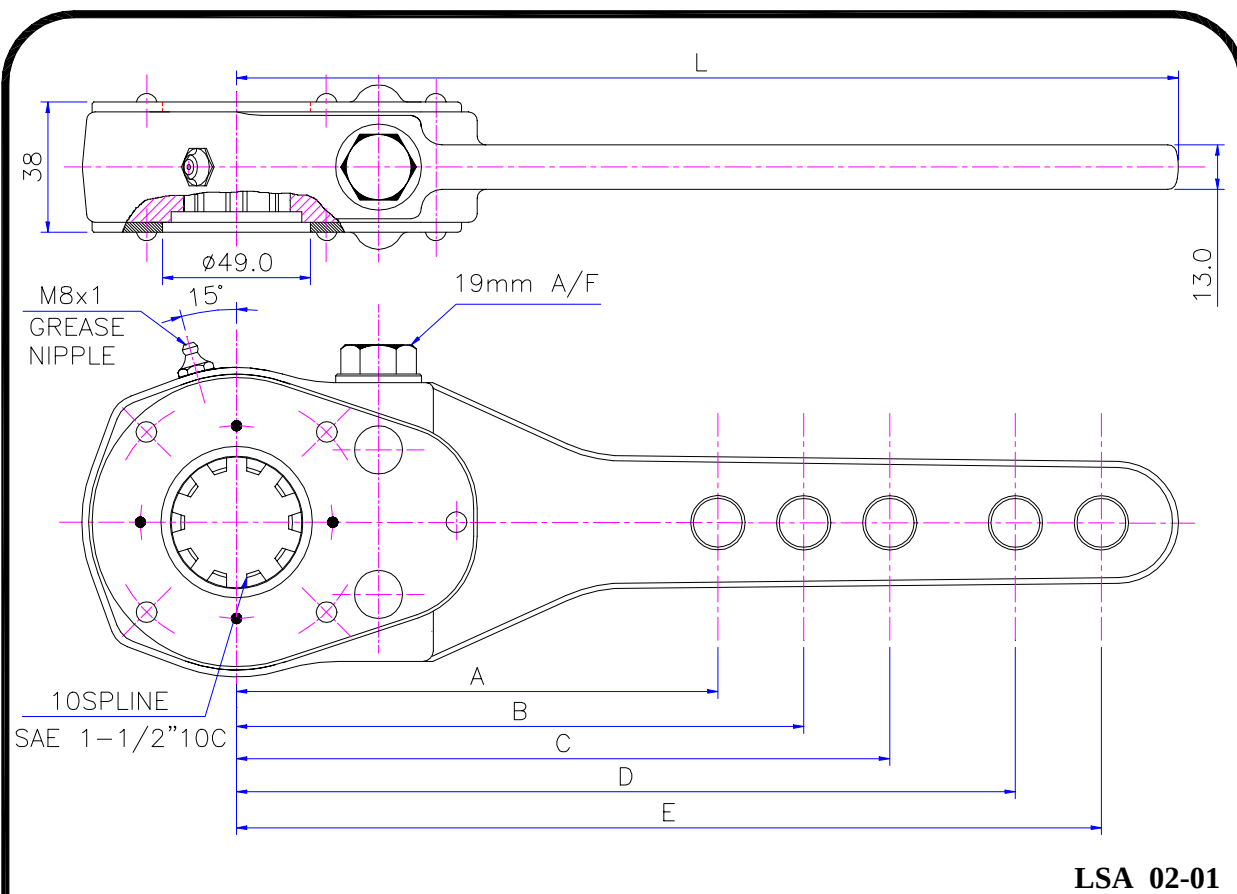


LSA PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET K	LENGTH L	TYPE
		A - ϕ	B - ϕ	C - ϕ	D - ϕ	E - ϕ	F - ϕ	G - ϕ			
LSA 01-01		140/12.7	165/12.7						-	195	Straight
LSA 01-02		130/12.7	155/12.7						-	170	Straight



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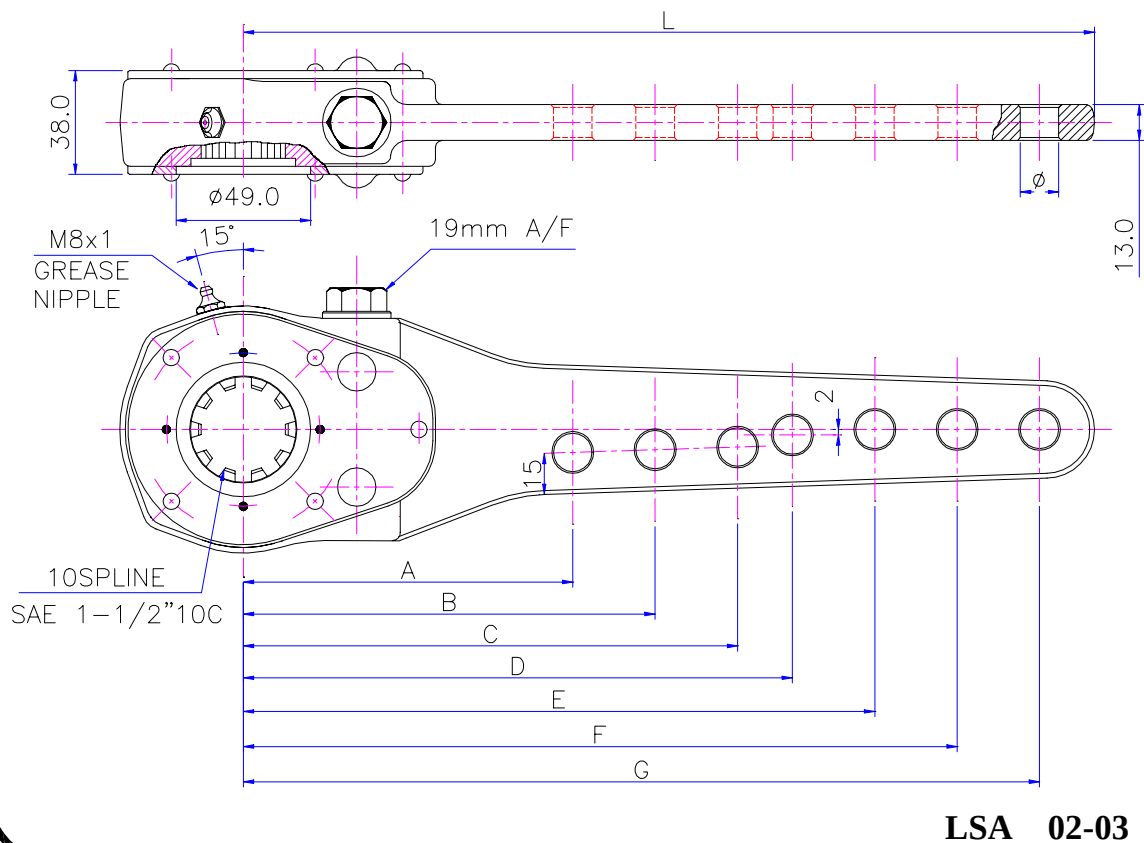
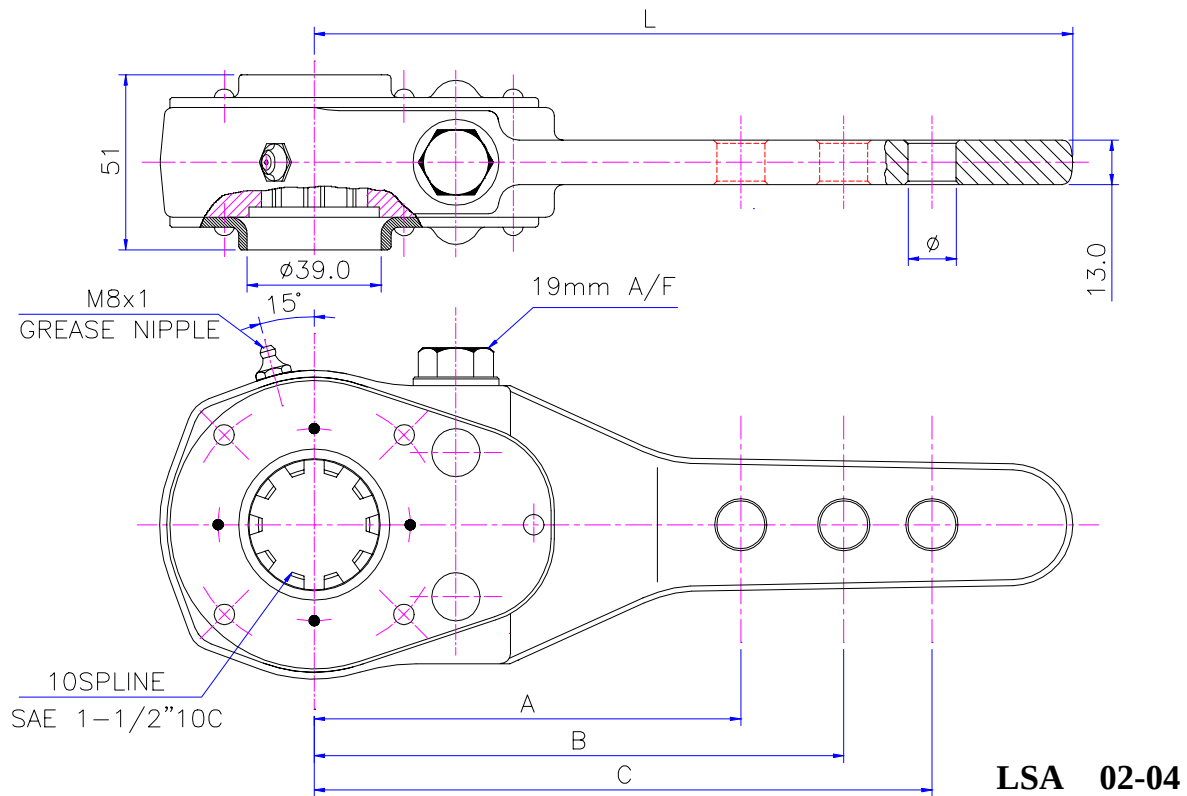
BERGICHE ACHSEN (BPW)

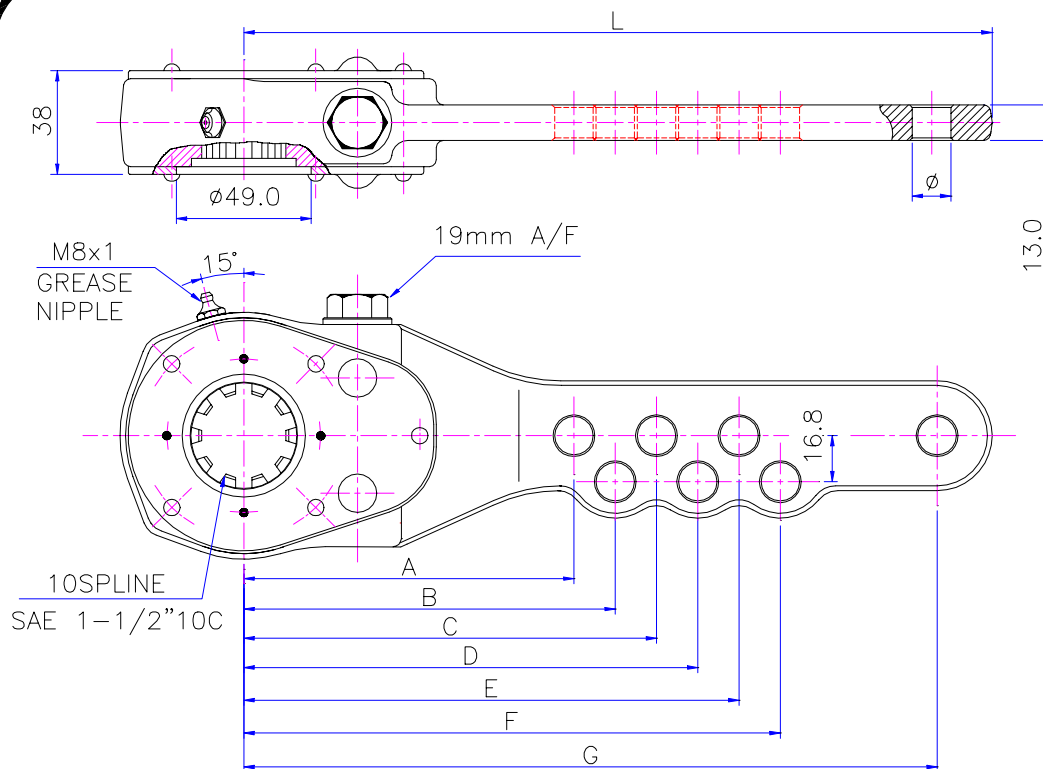




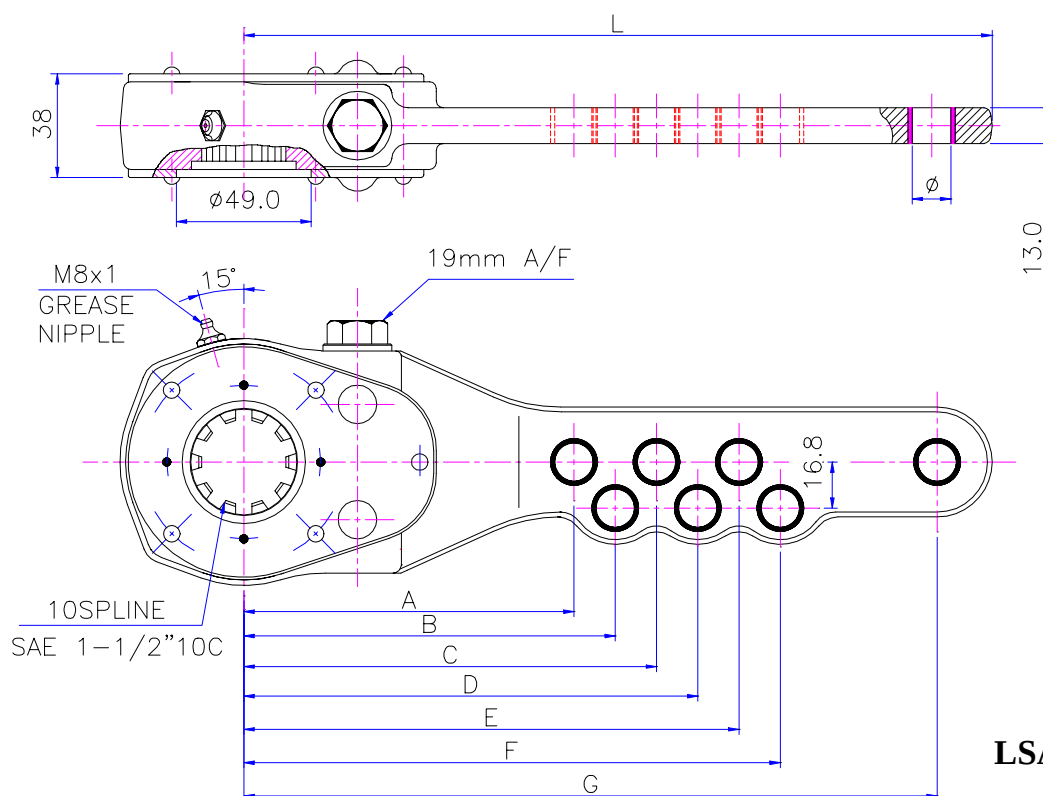
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BERGICHE ACHSEN (BPW)





LSA 02-06

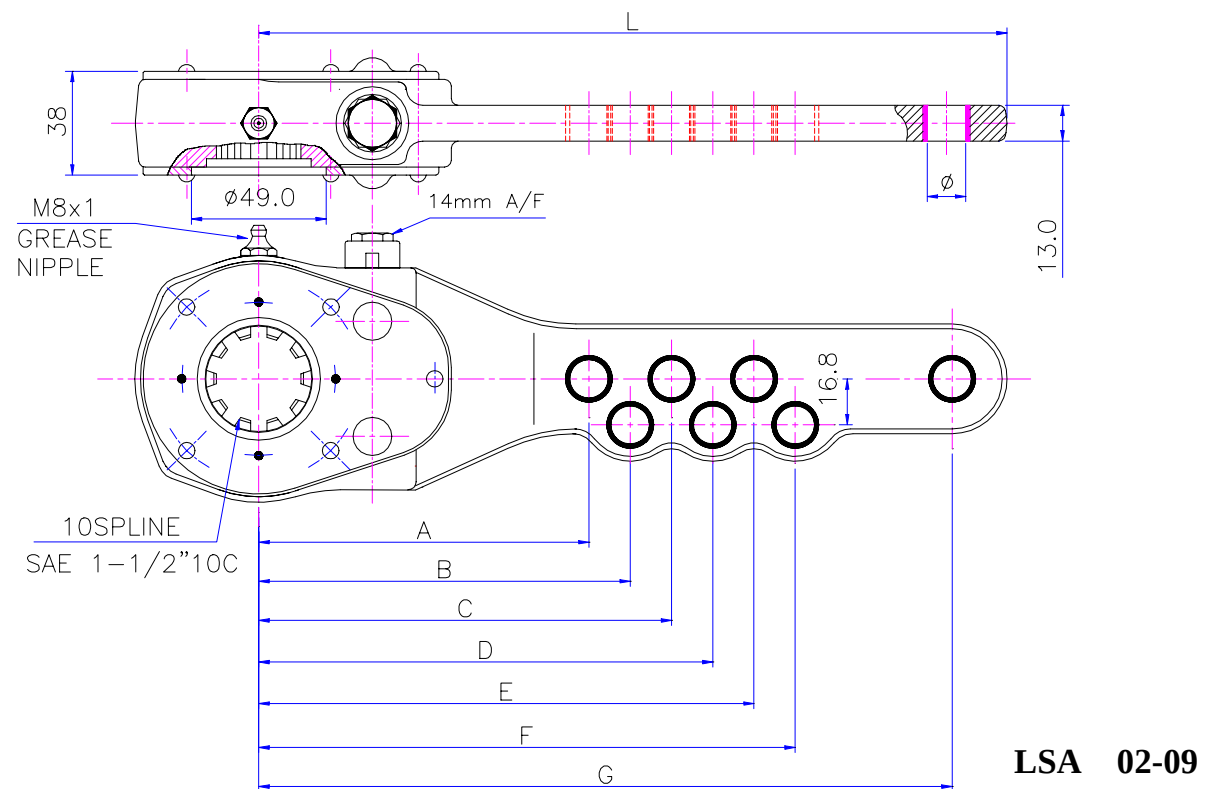
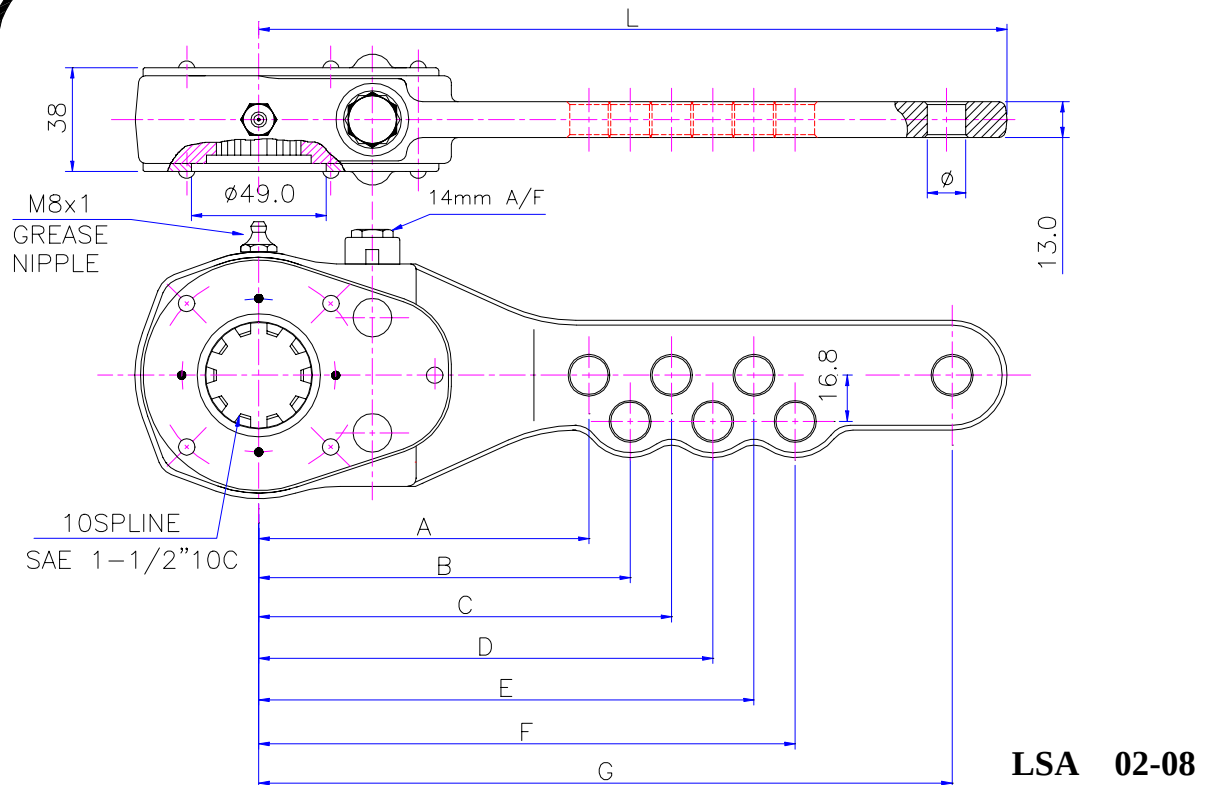


LSA 02-07



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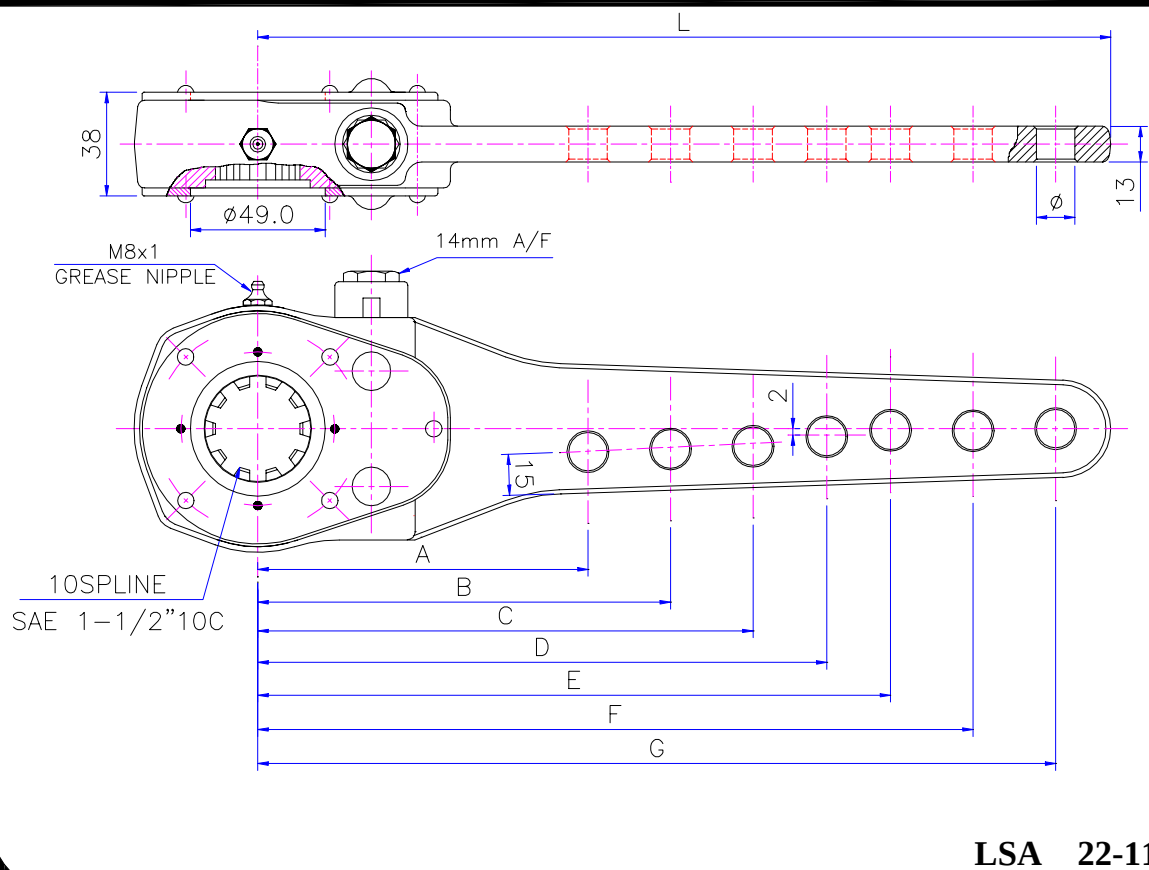
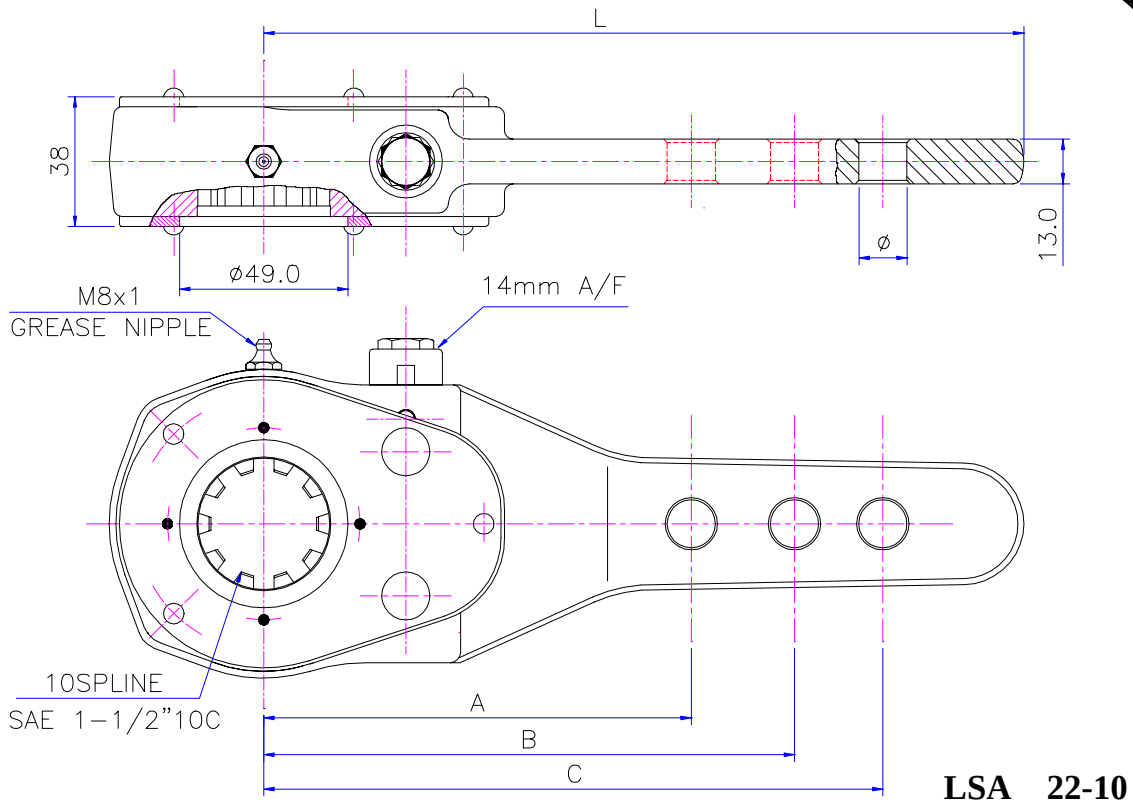
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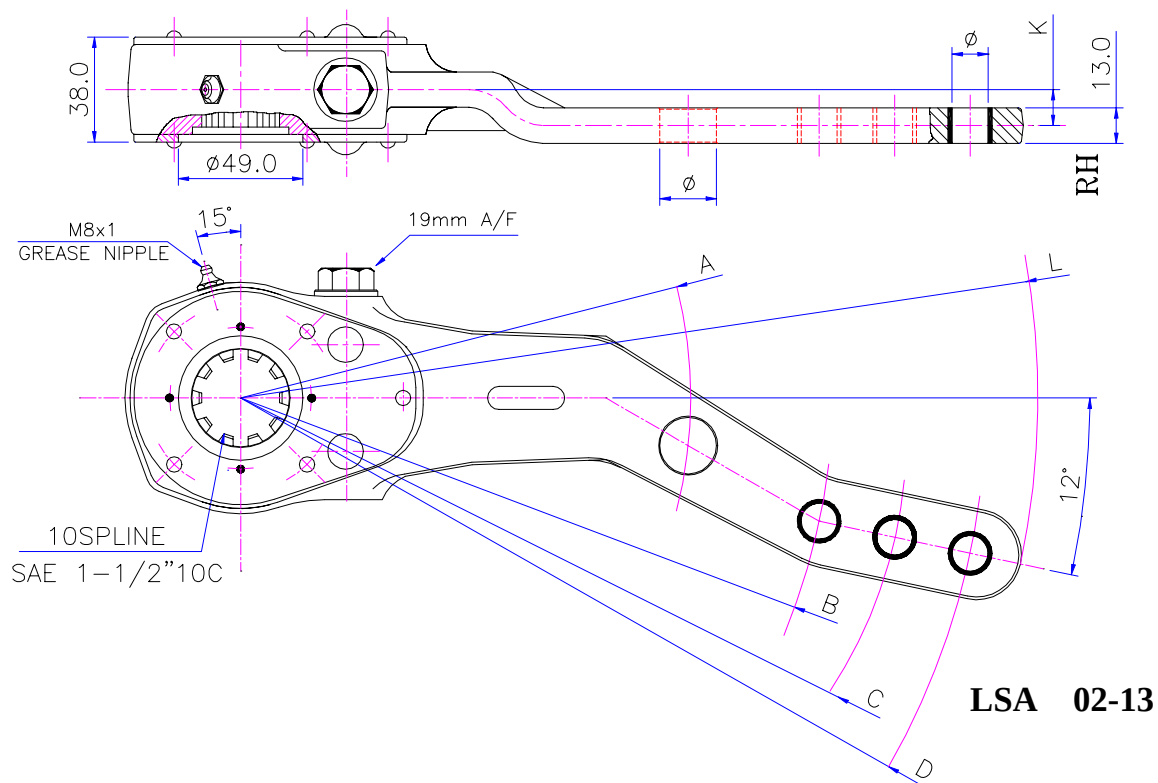
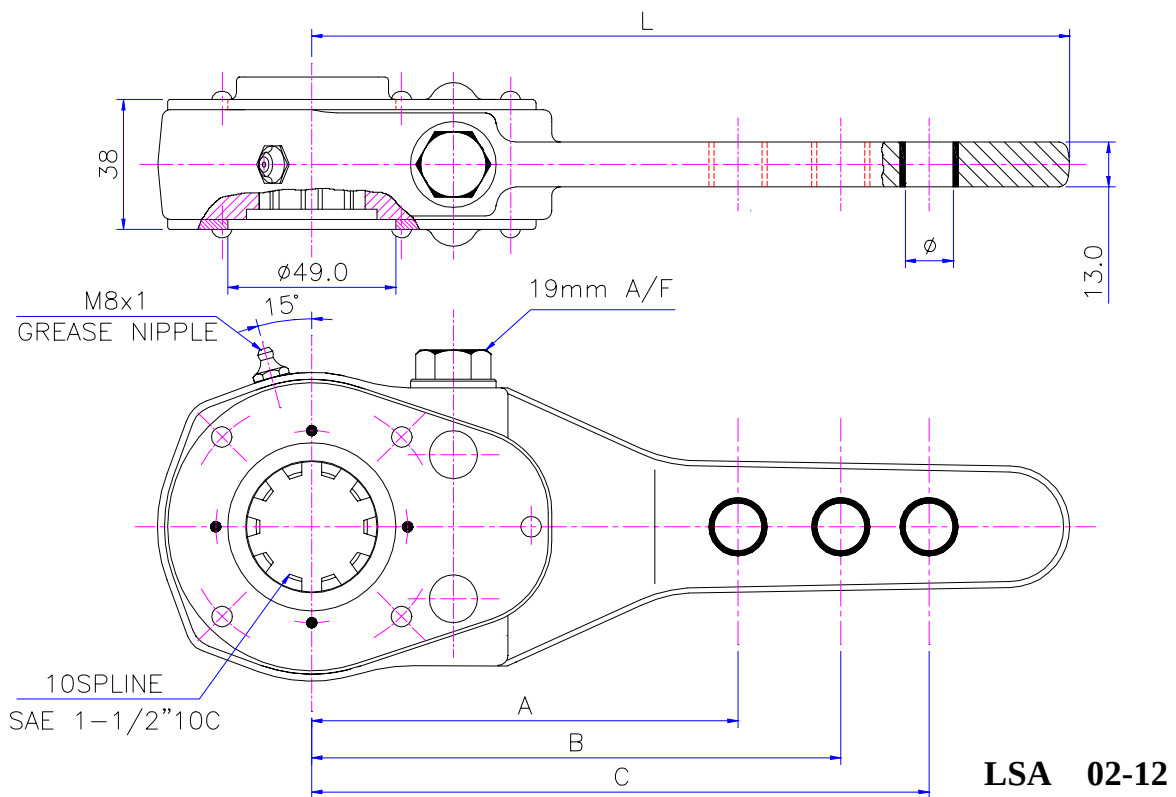




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BERGICHE ACHSEN (BPW)







Technical drawing of a steering knuckle assembly, showing two views: a side view (top) and a front view (bottom).

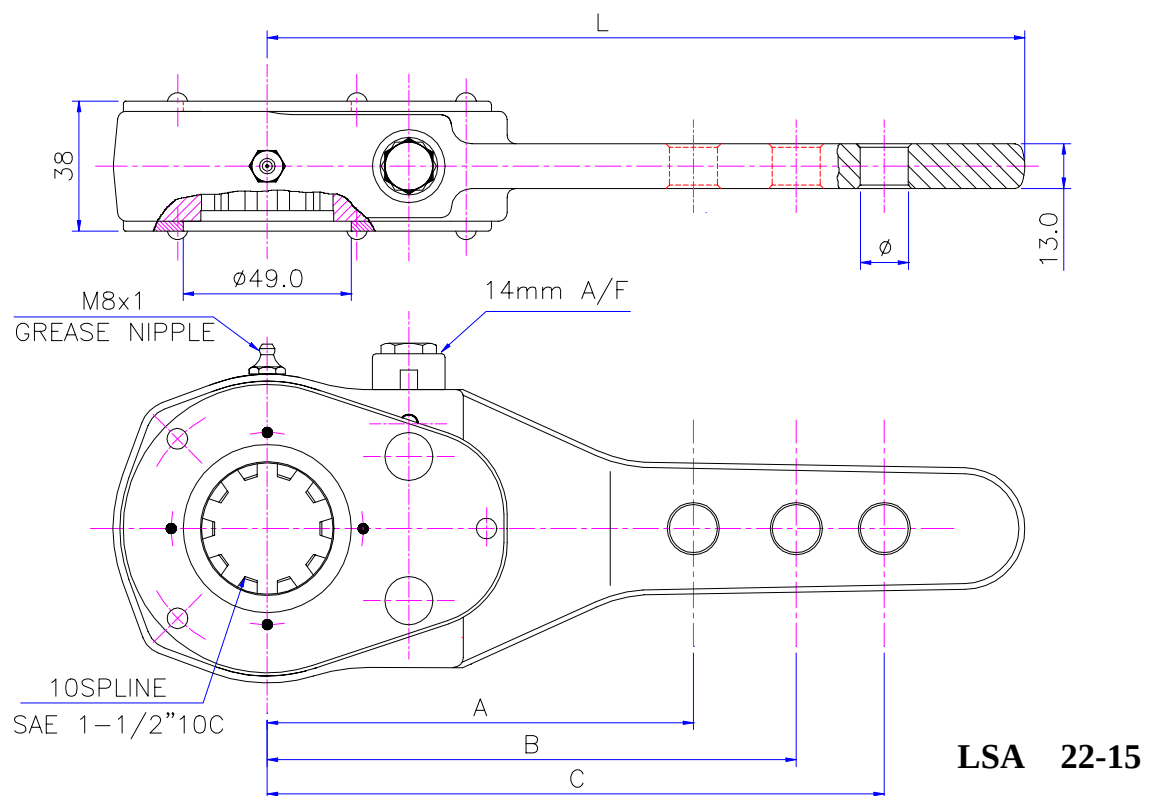
Side View (Top):

- Overall width: 38.0
- Overall height: 13.0
- Shaft diameter: ϕ
- Shaft length: LH
- Knuckle width: $\phi 49.0$
- Angle: 15°
- Grease nipple: M8x1
- 19mm A/F

Front View (Bottom):

- Overall width: 12°
- Angle: 12°
- Angle: 15°
- 10SPLINE
- SAE 1-1/2"10C
- 19mm A/F
- M8x1 GREASE NIPPLE

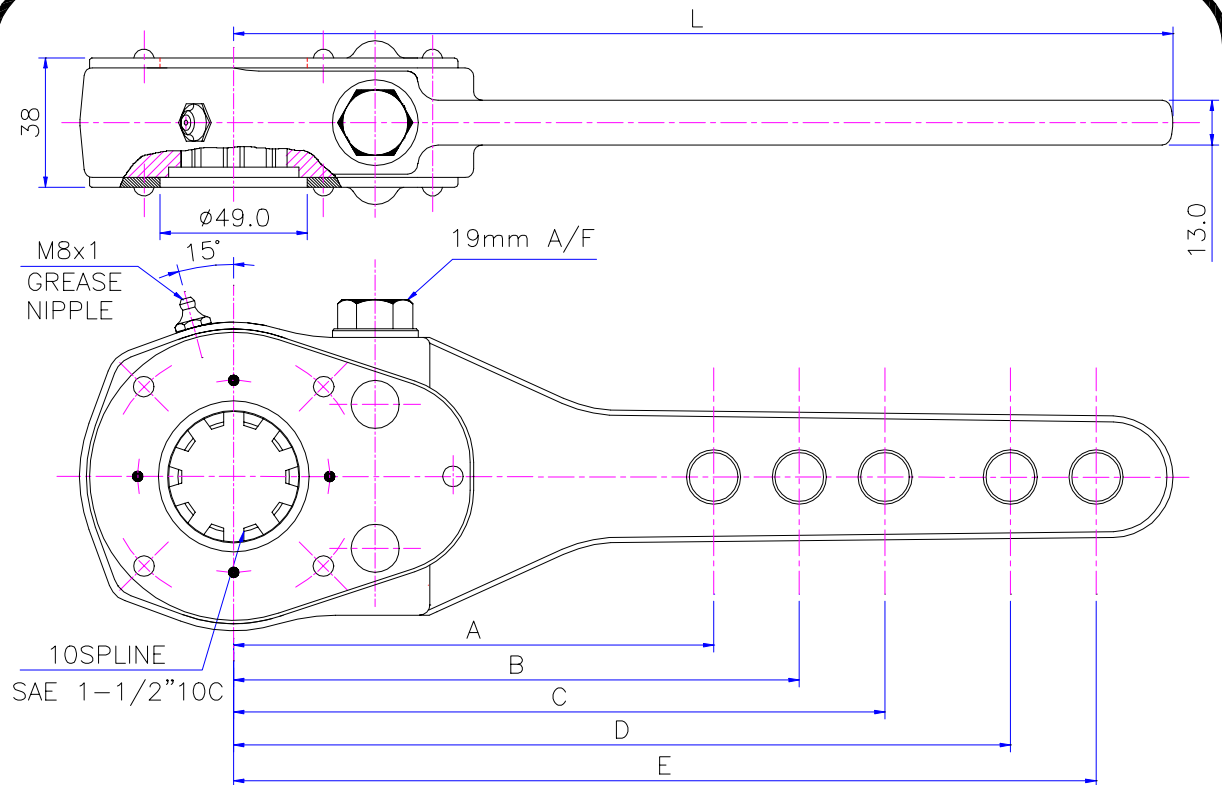
LSA 02-14



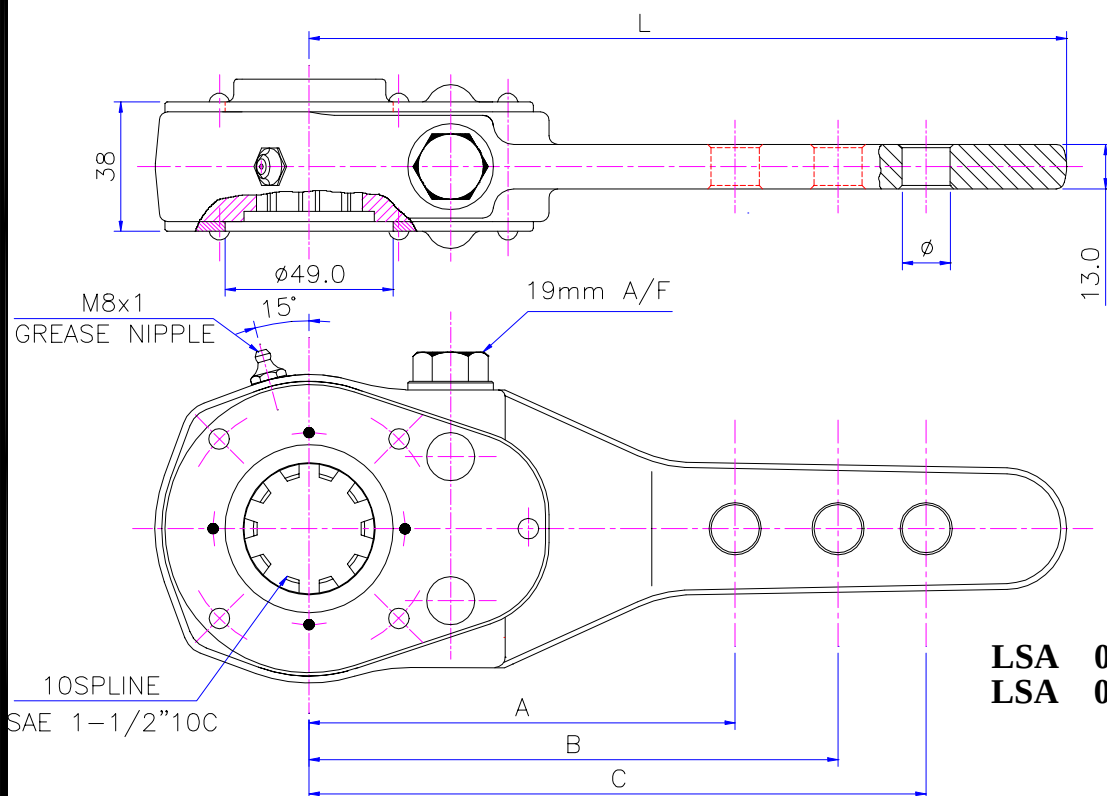


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BERGICHE ACHSEN (BPW)



LSA 02-16

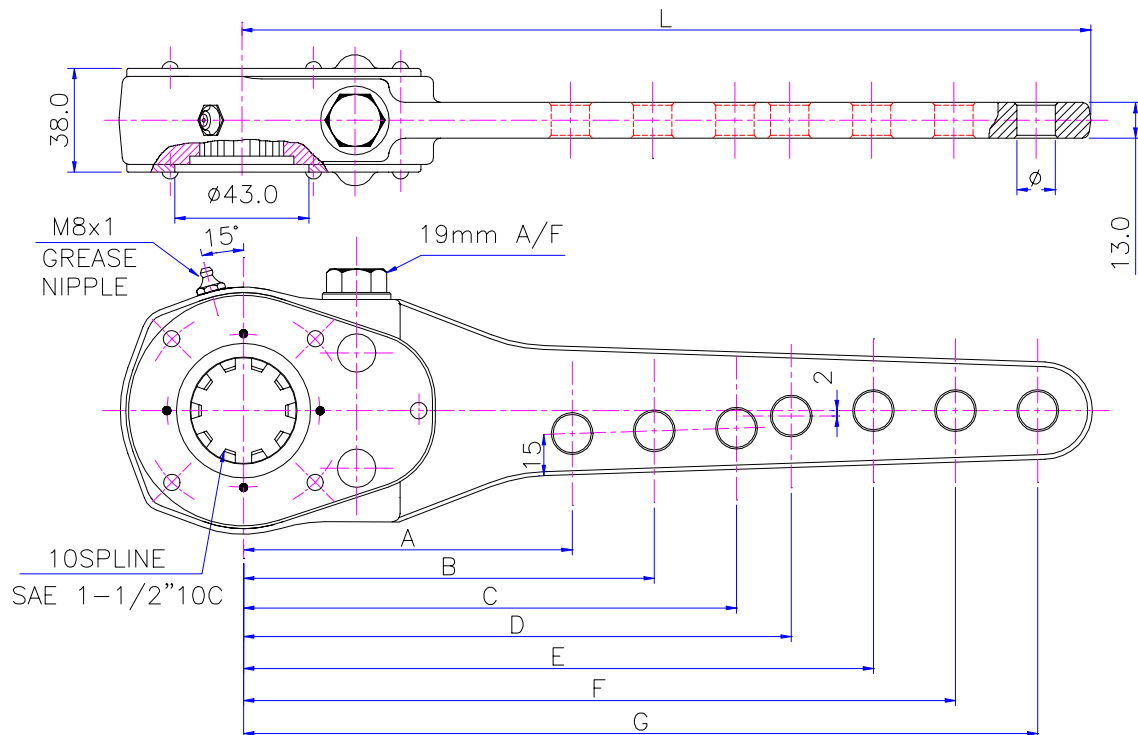


LSA 02-17
LSA 02-18

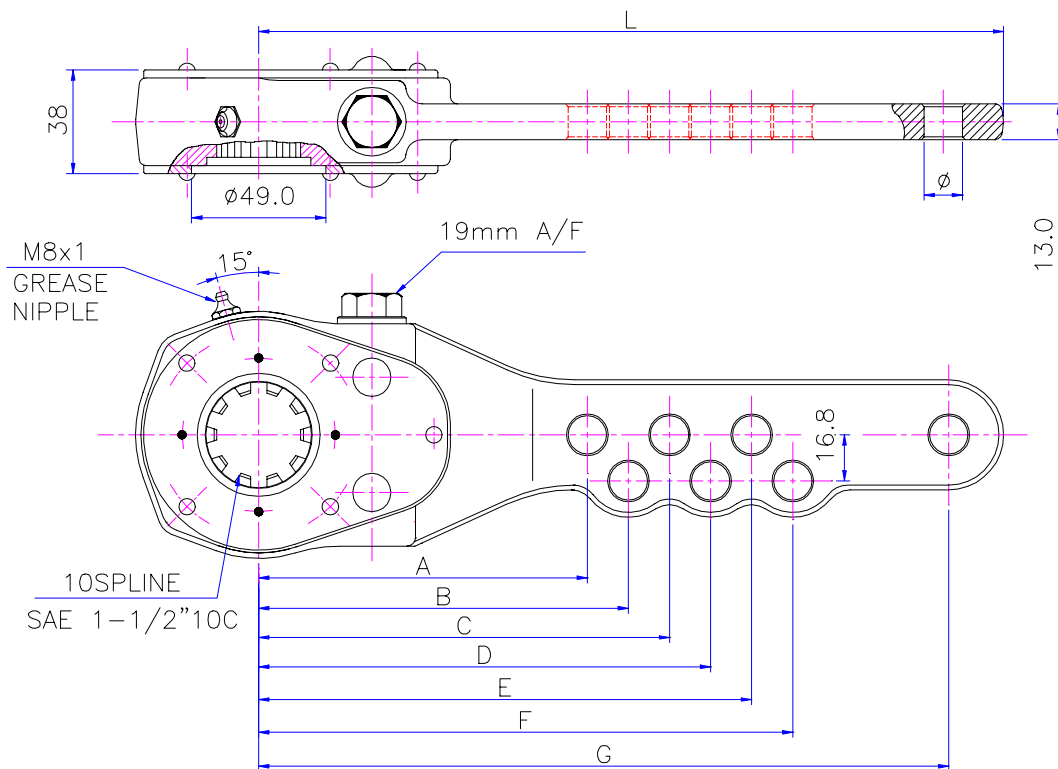


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BERGICHE ACHSEN (BPW)



LSA 02-19

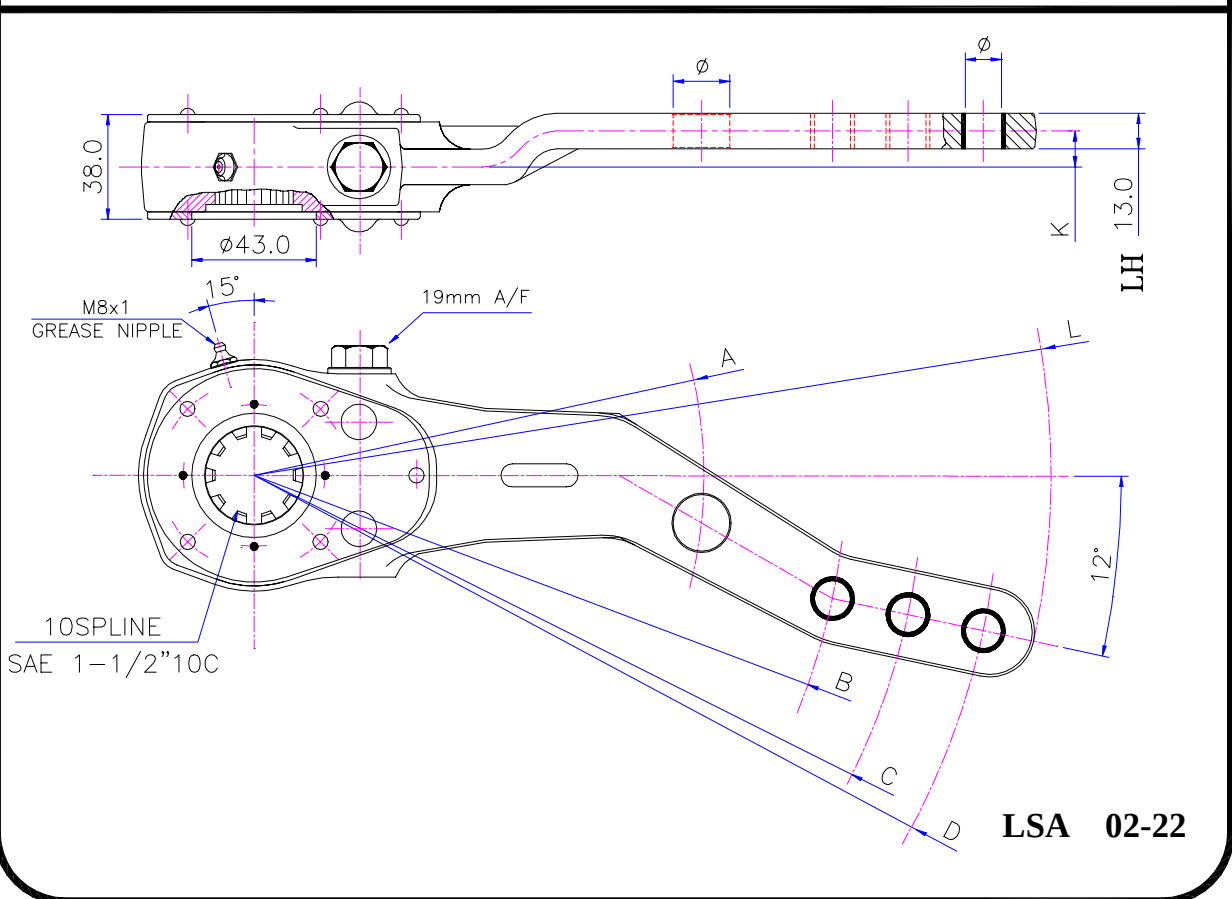
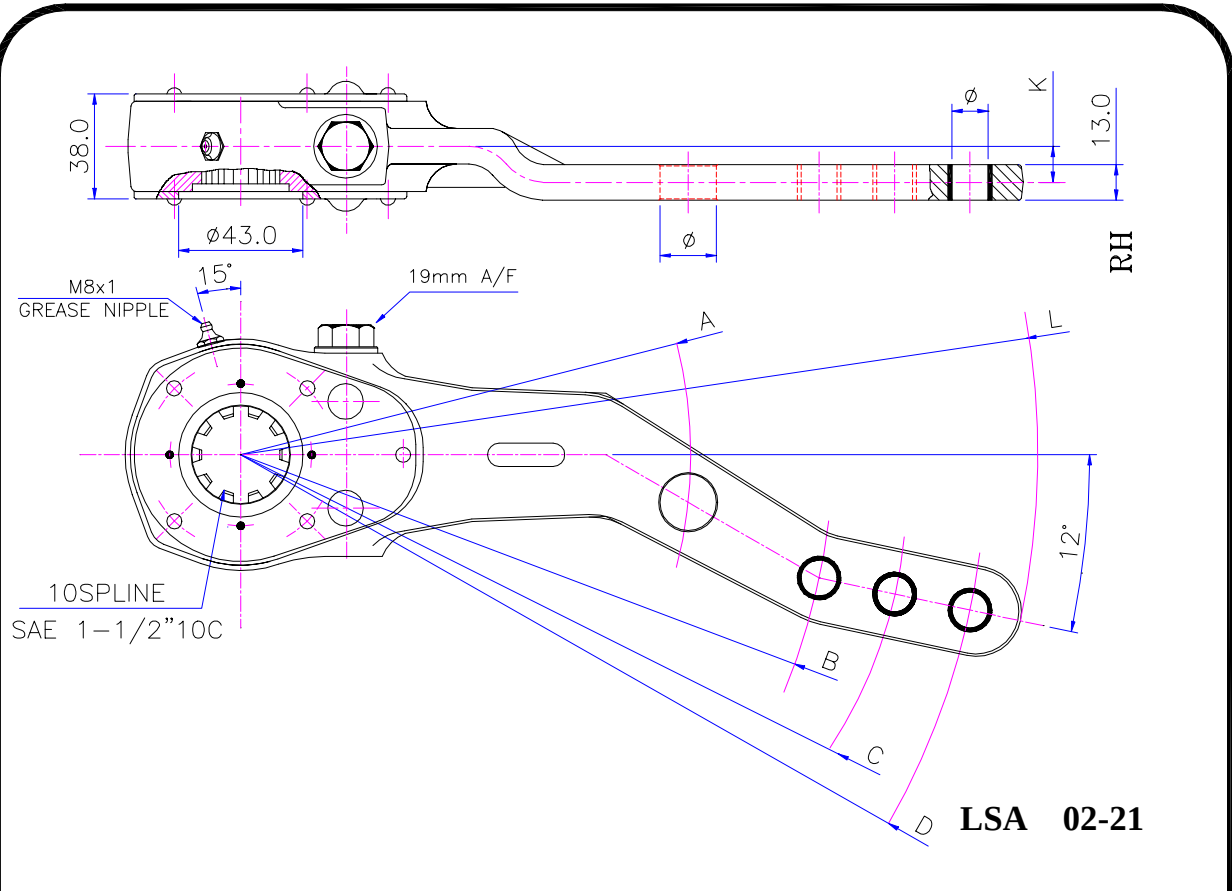


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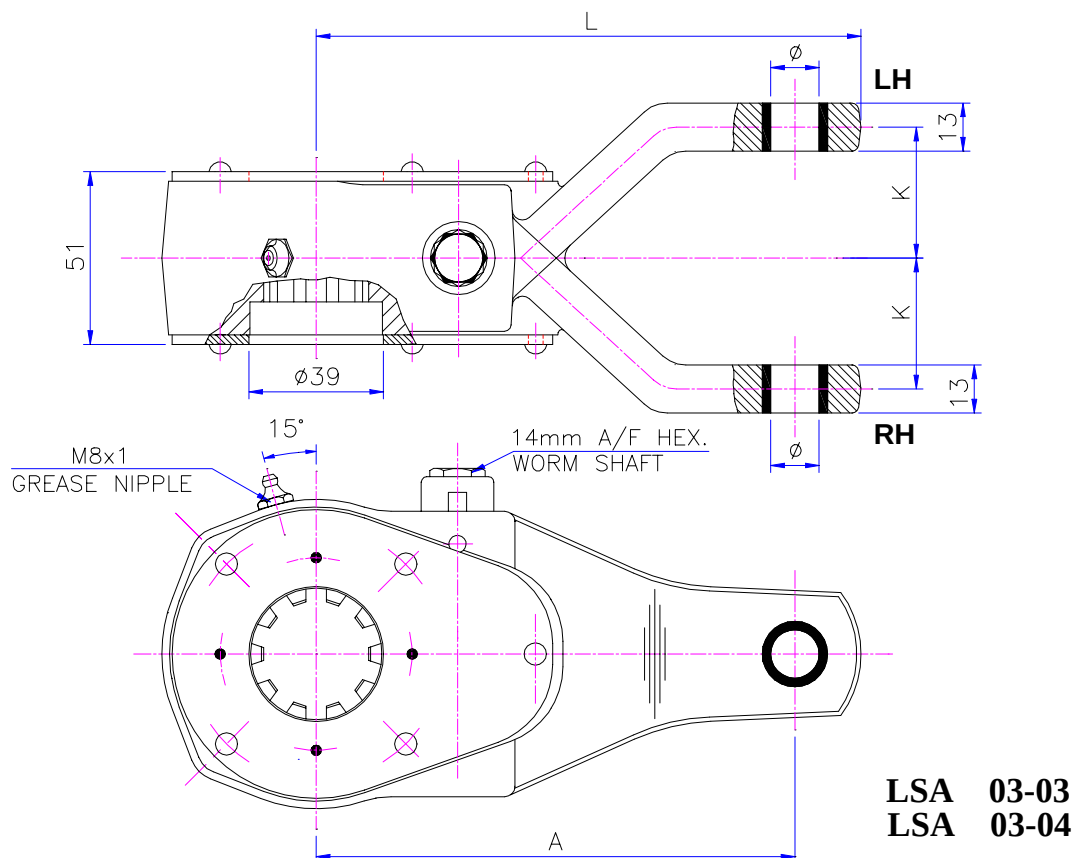
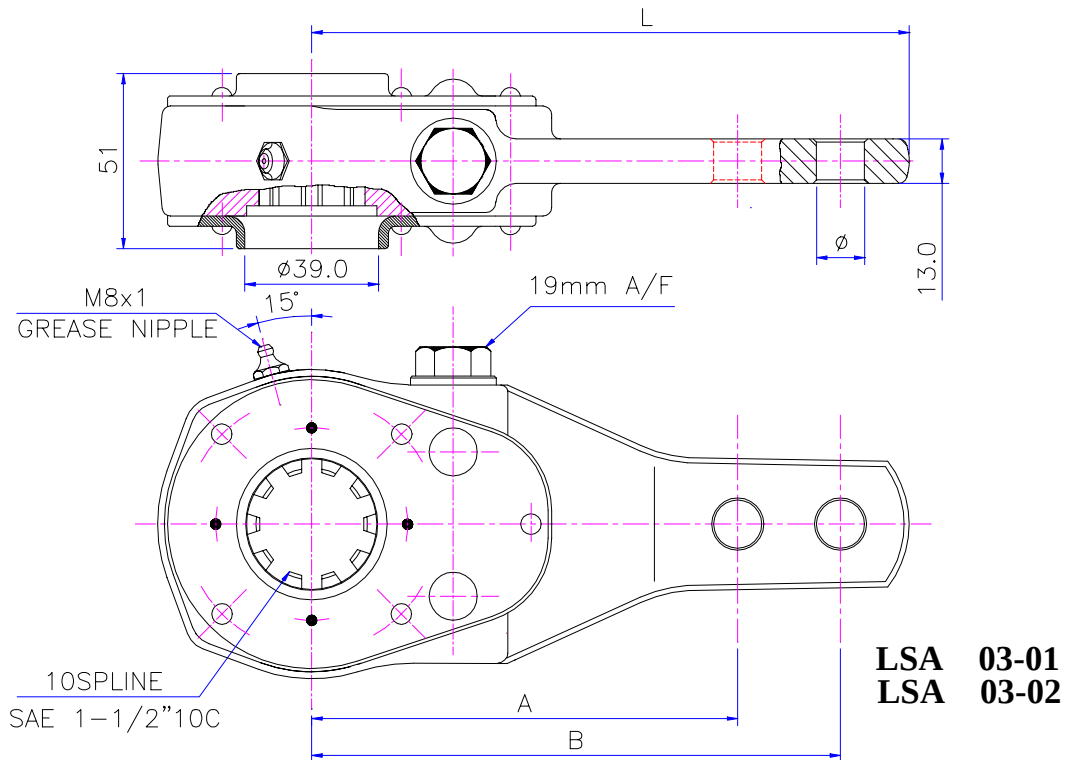
LUDAL LIMITED

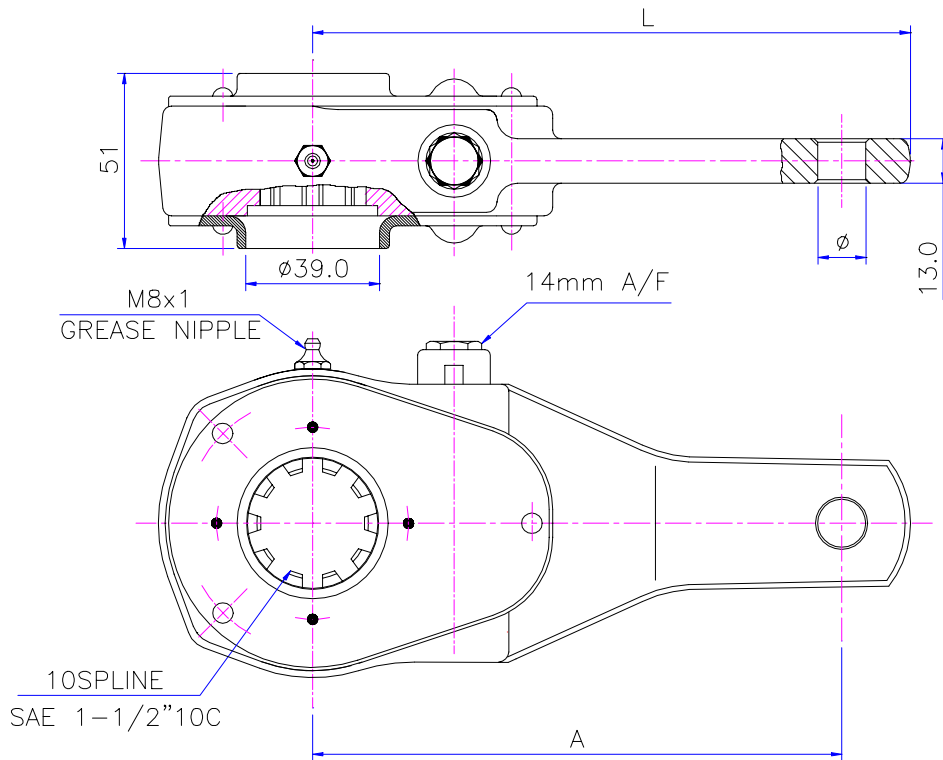
BERGICHE ACHSEN (BPW)



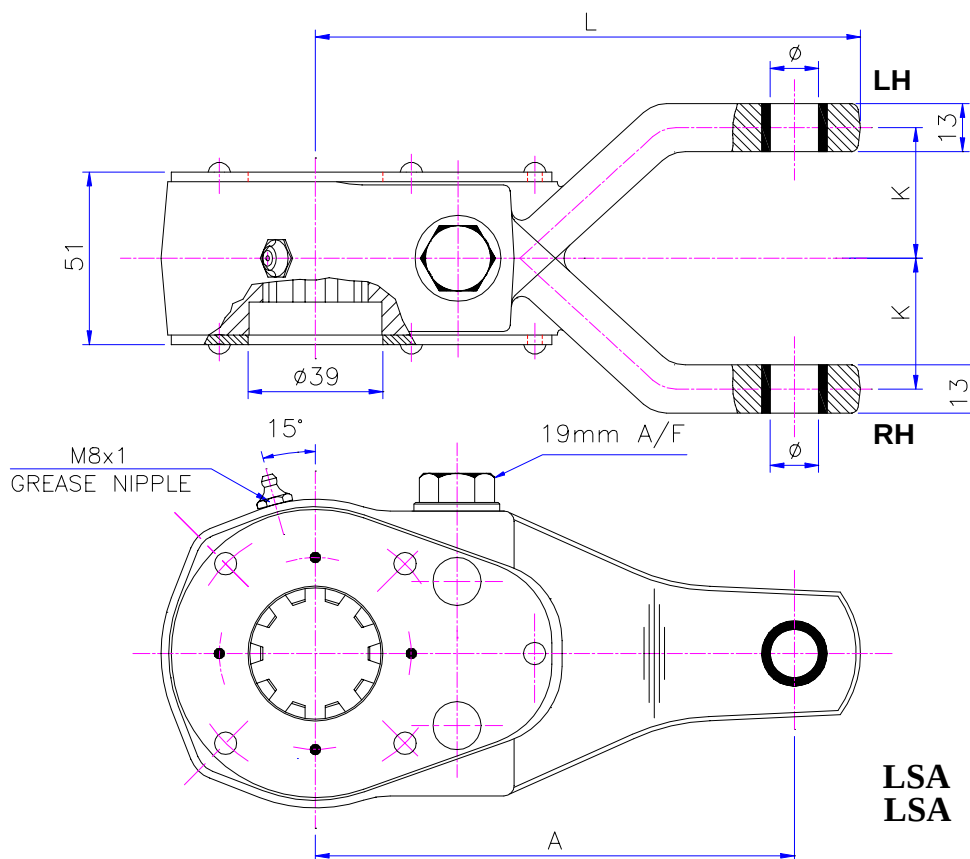


LSA PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET	LENGTH	TYPE
		A - Ø	B - Ø	C - Ø	D - Ø	E - Ø	F - Ø	G - Ø	K	L	
LSA 02-01	05.174.52.61.0	120/14.0	150/14.0	180/14.0	220/14.0	250/14.0			-	272	Straight
LSA 02-02	05.174.52.80.0	150/14.0	170/14.0	190/14.0					-	218	Straight
LSA 02-03	05.174.52.34.0	120/14.0	150/14.0	180/14.0					-	218	Straight
LSA 02-04	05.174.52.10.0	120/14.0	150/14.0	180/14.0					-	218	Straight
LSA 02-05	05.174.52.30.0	120/14.0	150/14.0	180/14.0	200/14.0	230/14.0	260/14.0	290/14.0	-	310	Straight
LSA 02-06	05.174.65.13.0	120/14.0	135/14.0	150/14.0	165/14.0	180/14.0	195/14.0	250/14.0	-	272	straight
LSA 02-07		120/14.0	135/14.0	150/14.0	165/14.0	180/14.0	195/14.0	250/14.0	-	272	straight
LSA 02-08		120/14.0	135/14.0	150/14.0	165/14.0	180/14.0	195/14.0	250/14.0	-	272	straight
LSA 02-09		120/14.0	135/14.0	150/14.0	165/14.0	180/14.0	195/14.0	250/14.0	-	272	straight
LSA 02-10		120/14.0	150/14.0	180/14.0					-	218	straight
LSA 02-11		120/14.0	150/14.0	180/14.0	200/14.0	230/14.0	260/14.0	290/14.0	-	310	straight
LSA 02-12		120/14.0	150/14.0	180/14.0					-	218	straight
LSA 02-13	05.174.58.14.0	175/22.0	230/14.0	260/14.0	290/14.0				14	310	RH
LSA 02-14	05.174.58.13.0	175/22.0	230/14.0	260/14.0	290/14.0				14	310	LH
LSA 02-15		150/14.0	170/14.0	190/14.0					-	218	Straight
LSA 02-16		120/14.0	150/14.0	180/14.0	220/14.0	250/14.0			-	272	Straight
LSA 02-17		150/14.0	170/14.0	190/14.0					-	218	Straight
LSA 02-18		120/14.0	150/14.0	180/14.0					-	218	Straight
LSA 02-19		120/14.0	150/14.0	180/14.0	200/14.0	230/14.0	260/14.0	290/14.0	-	310	Straight
LSA 02-20		120/14.0	135/14.0	150/14.0	165/14.0	180/14.0	195/14.0	250/14.0	-	272	Straight
LSA 02-21		175/22.0	230/14.0	260/14.0	290/14.0				14	310	RH
LSA 02-22		175/22.0	230/14.0	260/14.0	290/14.0				14	310	LH





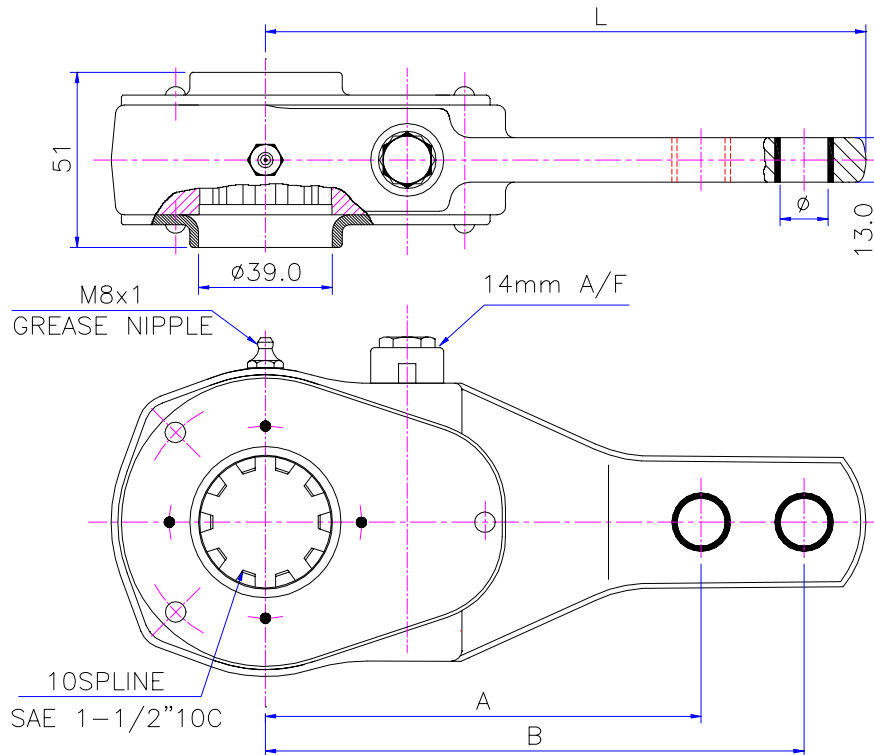
LSA 03-05



LSA 03-06
LSA 03-07

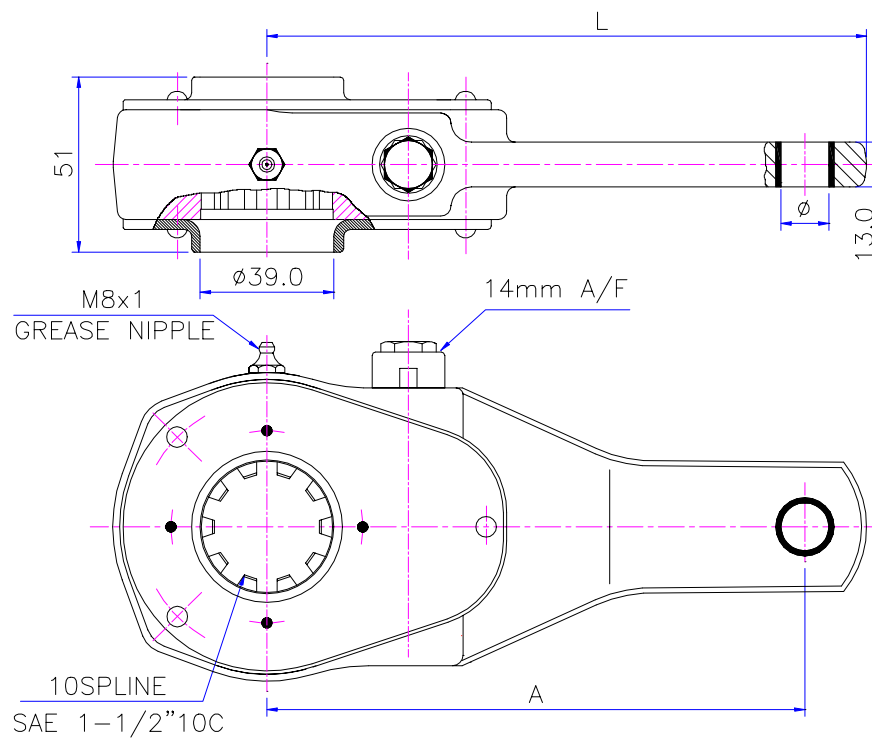


LSA PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET	LENGTH	TYPE
		A - Ø	B - Ø	C - Ø	D - Ø	E - Ø	F - Ø	G - Ø	K	L	
LSA 03-01	194/778	115/12.7	140/12.7						-	158	Straight
LSA 03-02	505.835,663.733 663.772	140/14.0							-	158	Straight
LSA 03-03	285.952,505.840	140/14.0							38.1	158	RH
LSA 03-04	285.951,505.839	140/14.0							38.1	158	LH
LSA 03-05		140/14.0							-	158	Straight
LSA 03-06		140/14.0							38.1	158	RH
LSA 03-07		140/14.0							38.1	158	LH



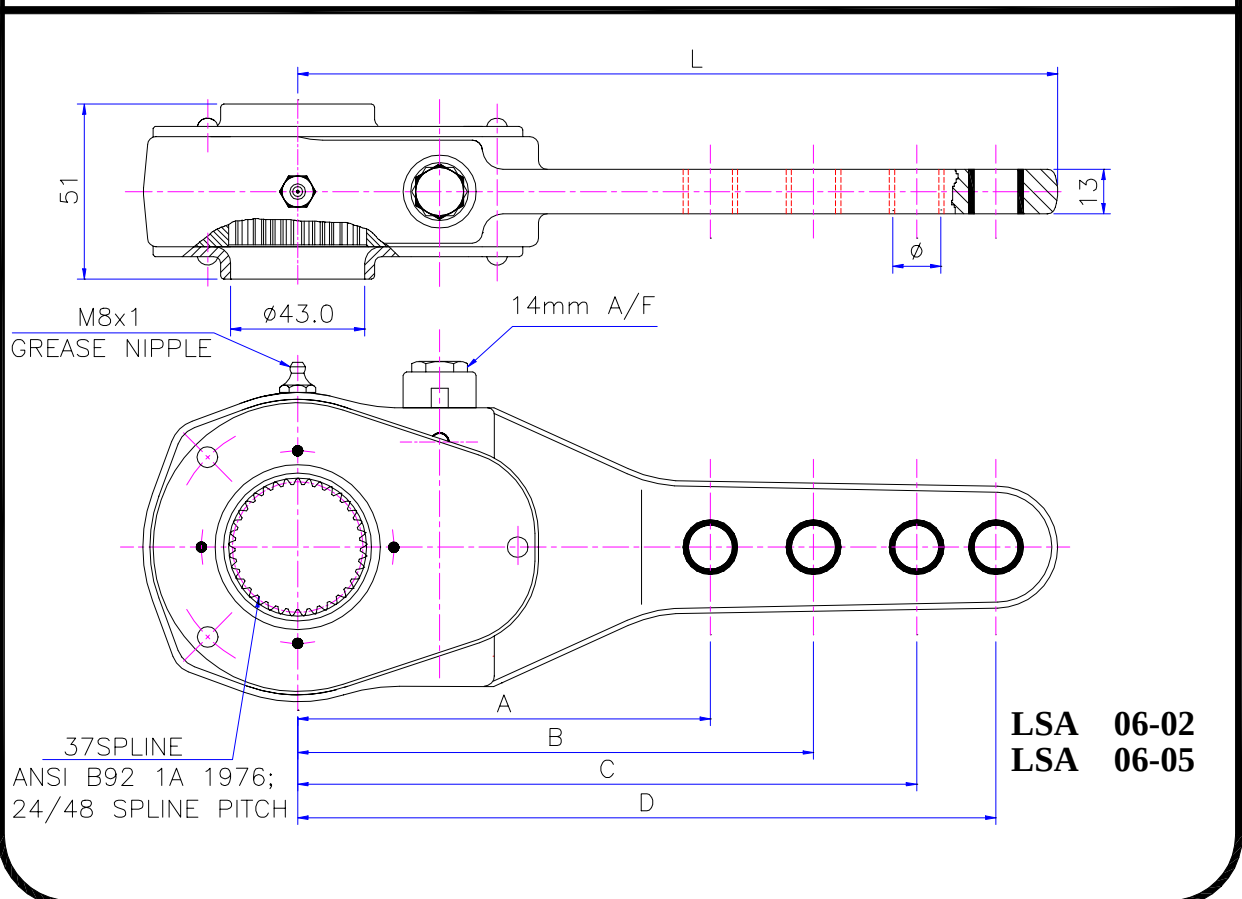
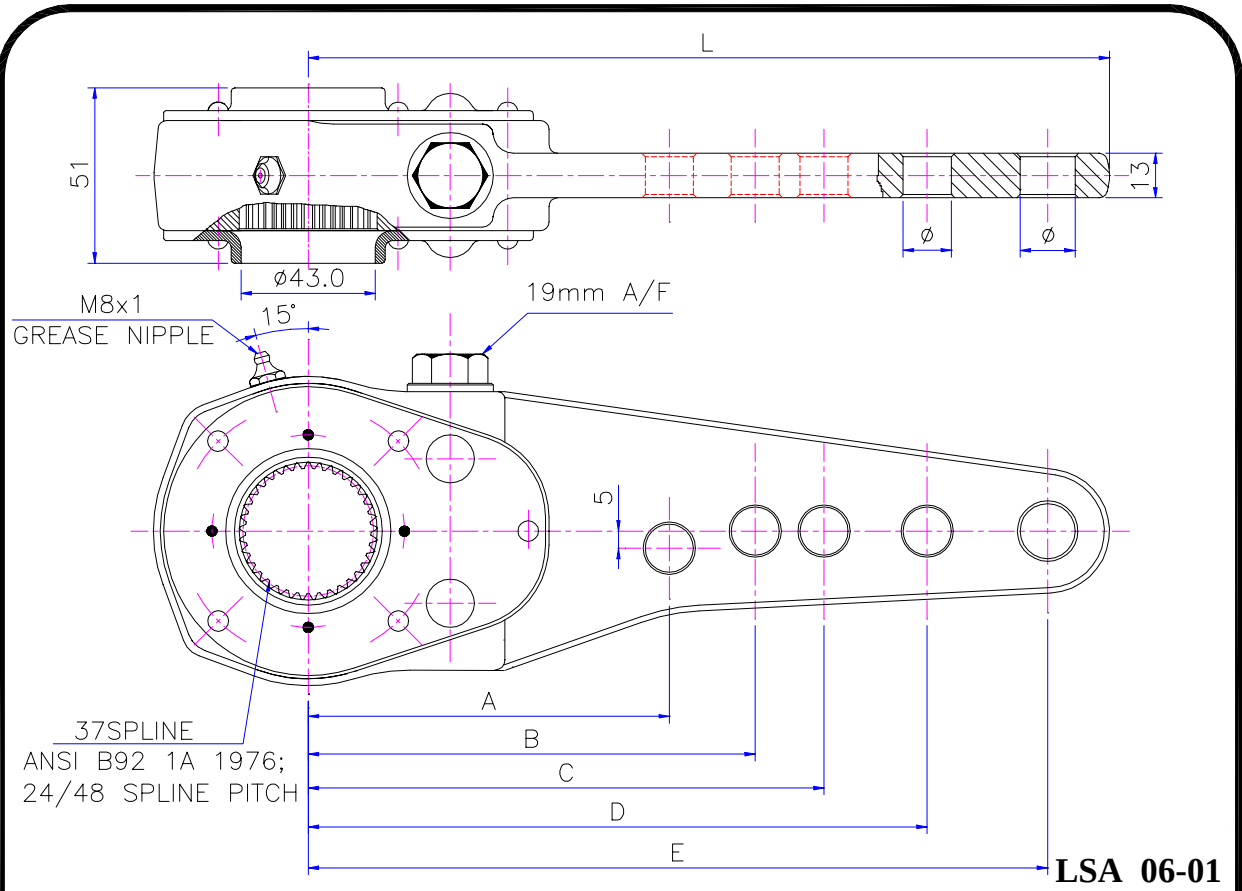
LSA 04-01

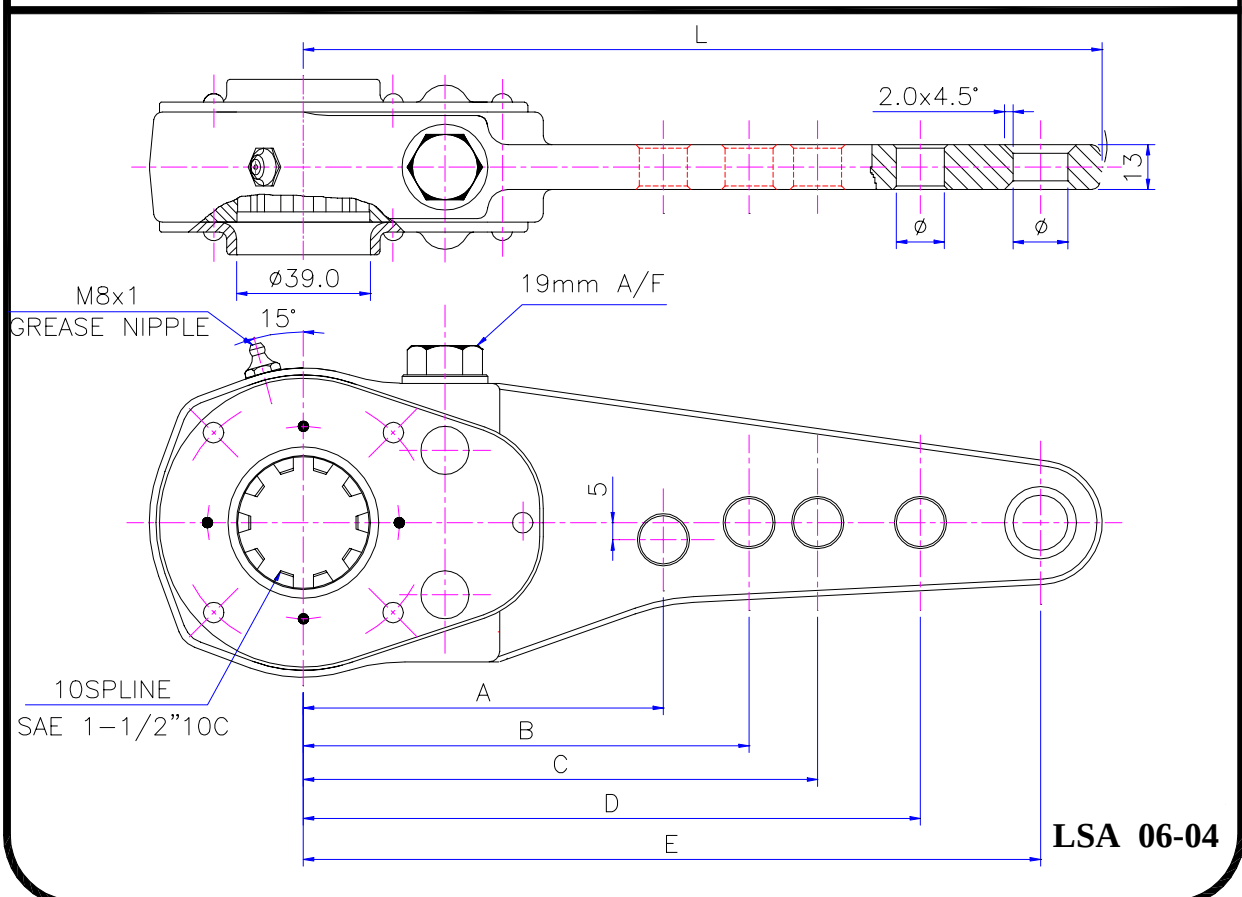
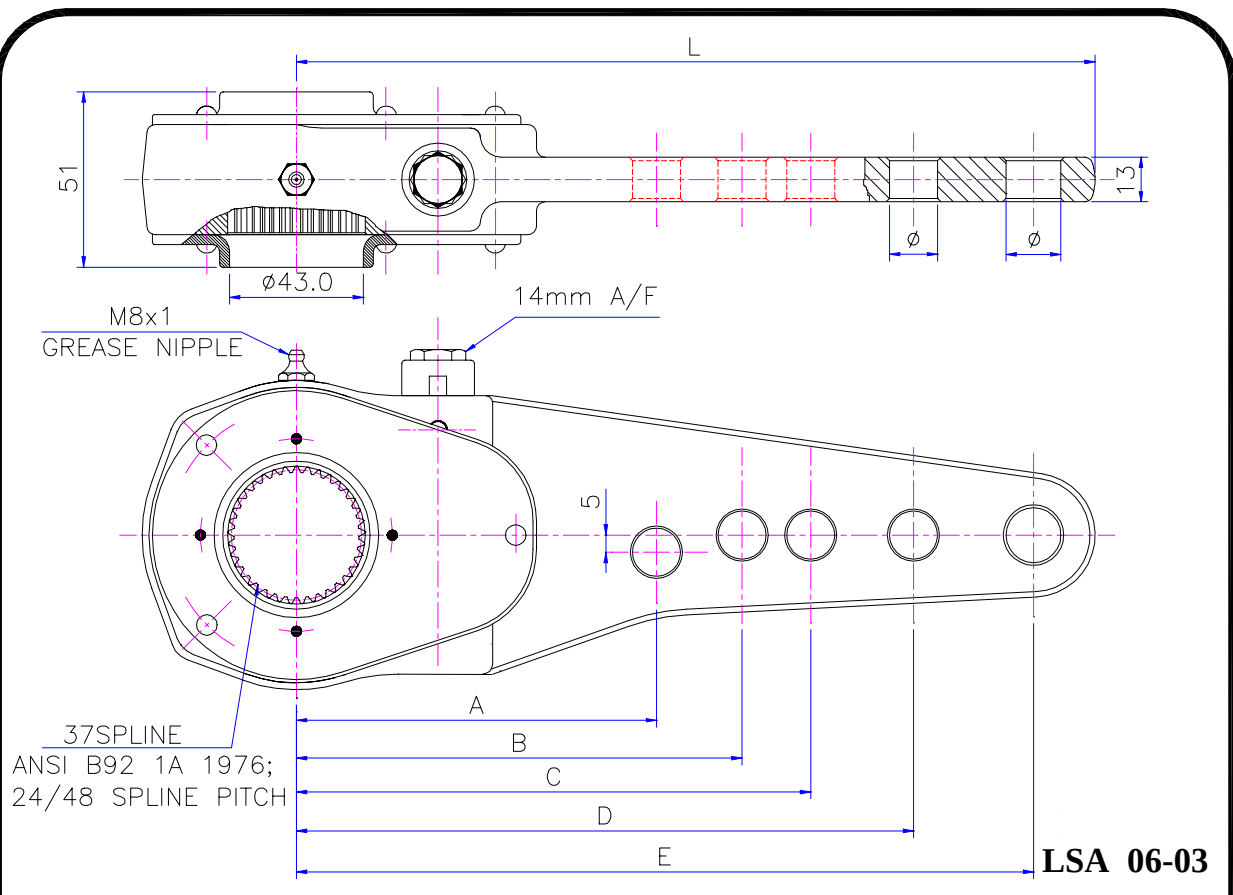
LSA PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET	LENGTH	TYPE
		A - Ø	B - Ø	C - Ø	D - Ø	E - Ø	F - Ø	G - Ø	K	L	
LSA 04-01		115/12.7	140/12.7						-	155	Straight



LSA 05-01

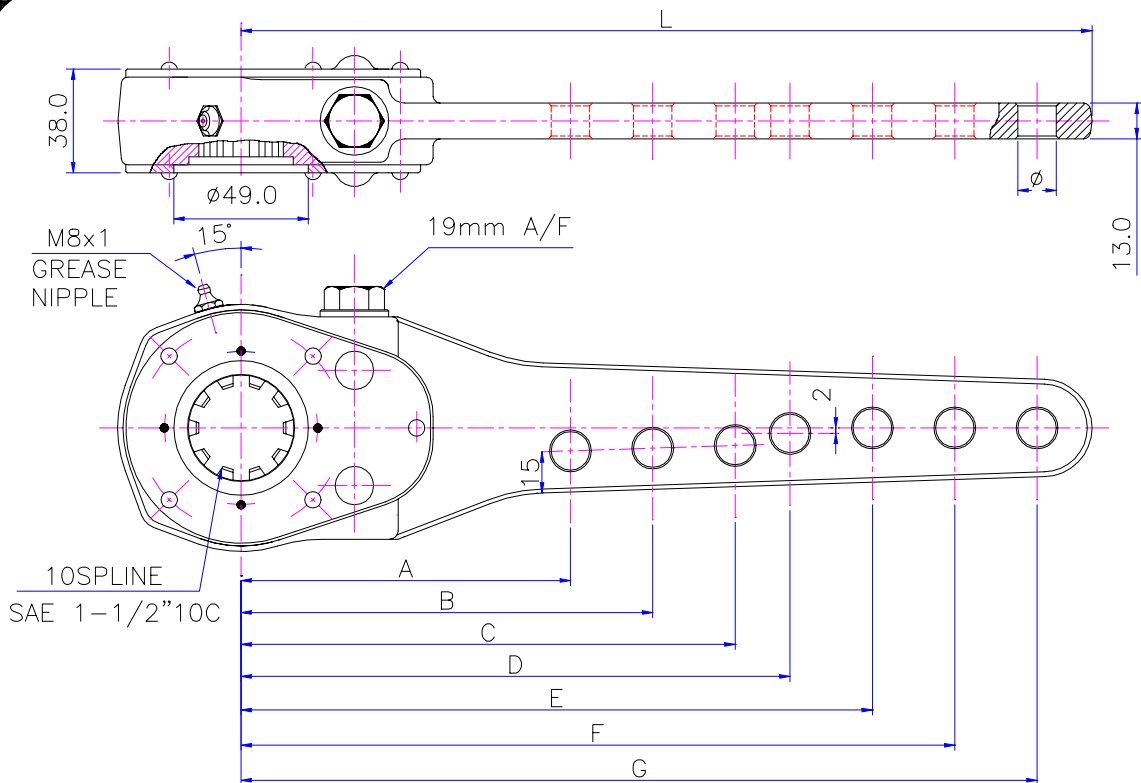
LSA PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET	LENGTH	TYPE
		A - ϕ	B - ϕ	C - ϕ	D - ϕ	E - ϕ	F - ϕ	G - ϕ	K	L	
LSA 05-01		135/12.7							-	150	Straight



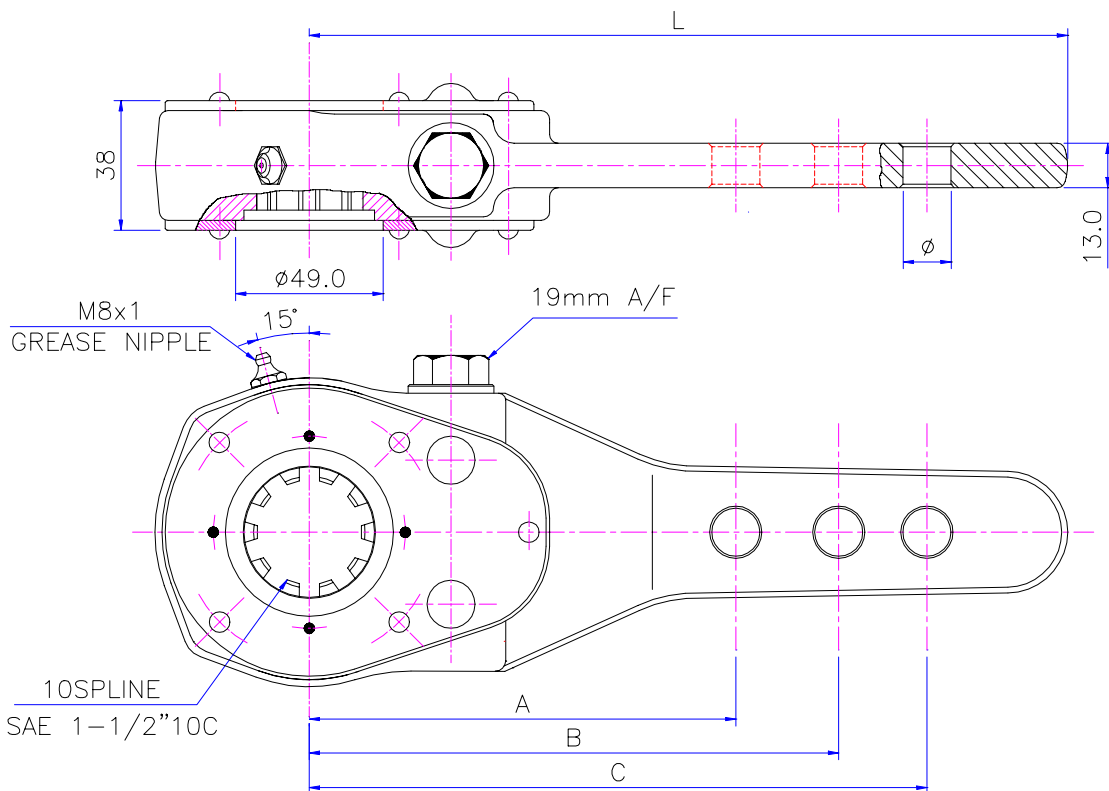




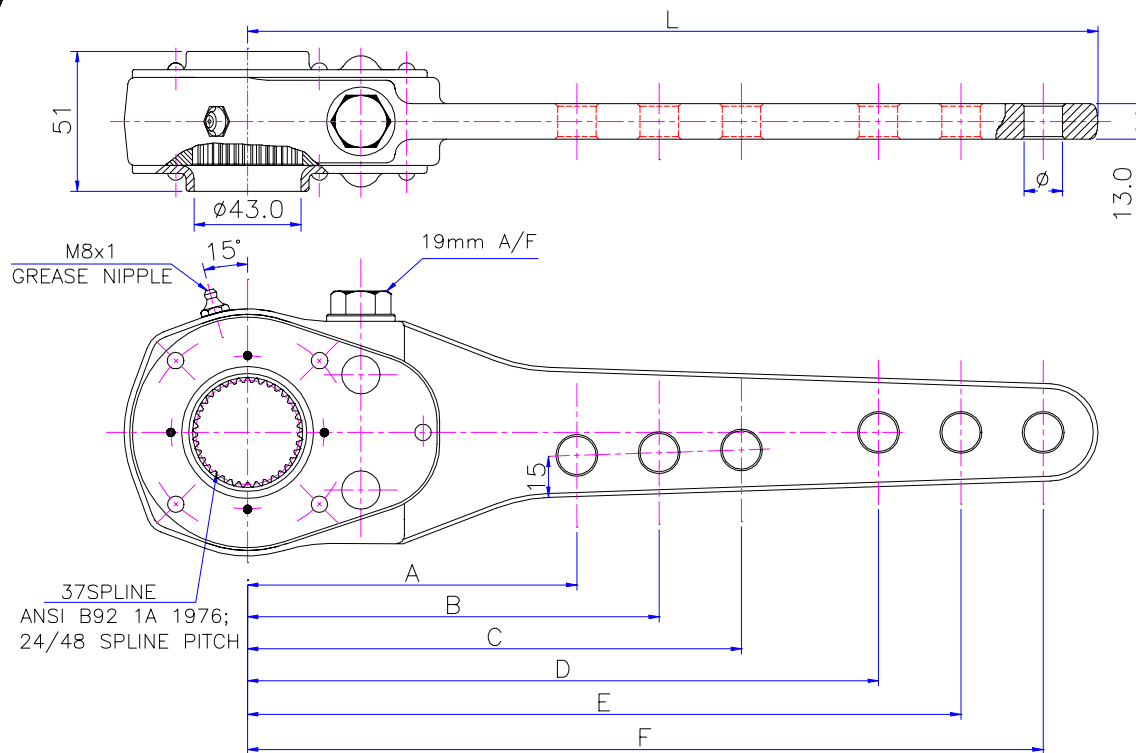
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LSA 06-01	31561	105/14.0	130/14.0	150/14.0	180/14.0	215/18.0			-	233	straight
LSA 06-02		127/12.7	152/12.7	178/12.7	203/12.7				-	218	straight
LSA 06-03		105/14.0	130/14.0	150/14.0	180/14.0	215/18.0			-	233	straight
LSA 06-04		105/14.0	130/14.0	150/14.0	180/14.0	215/16.0			-	233	straight
LSA 06-05		127/14.0	152/14.0	178/14.0	203/14.0				-	218	straight



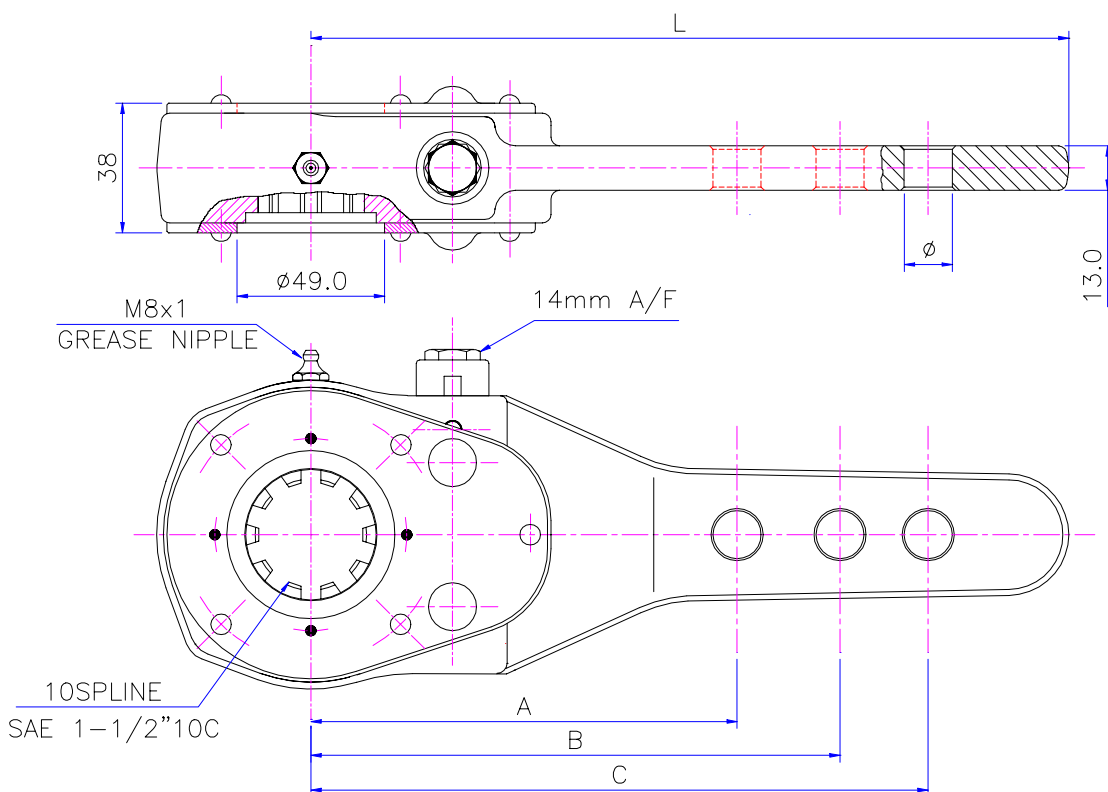
LSA 07-01



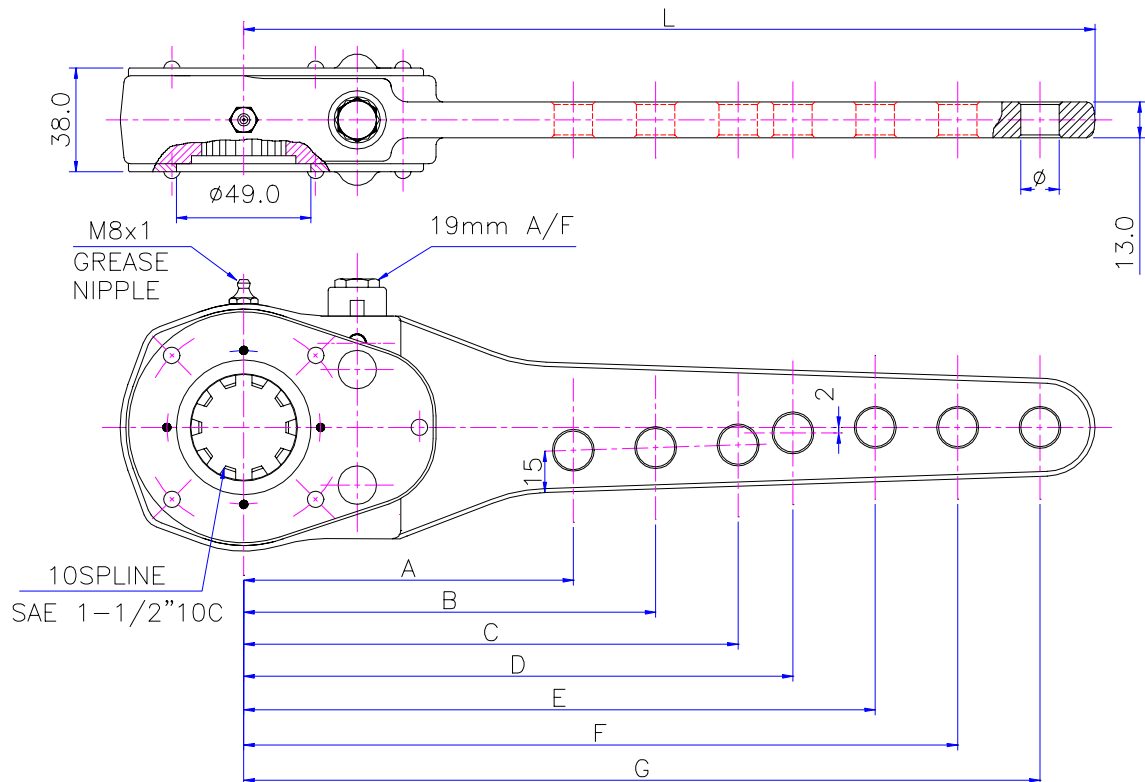
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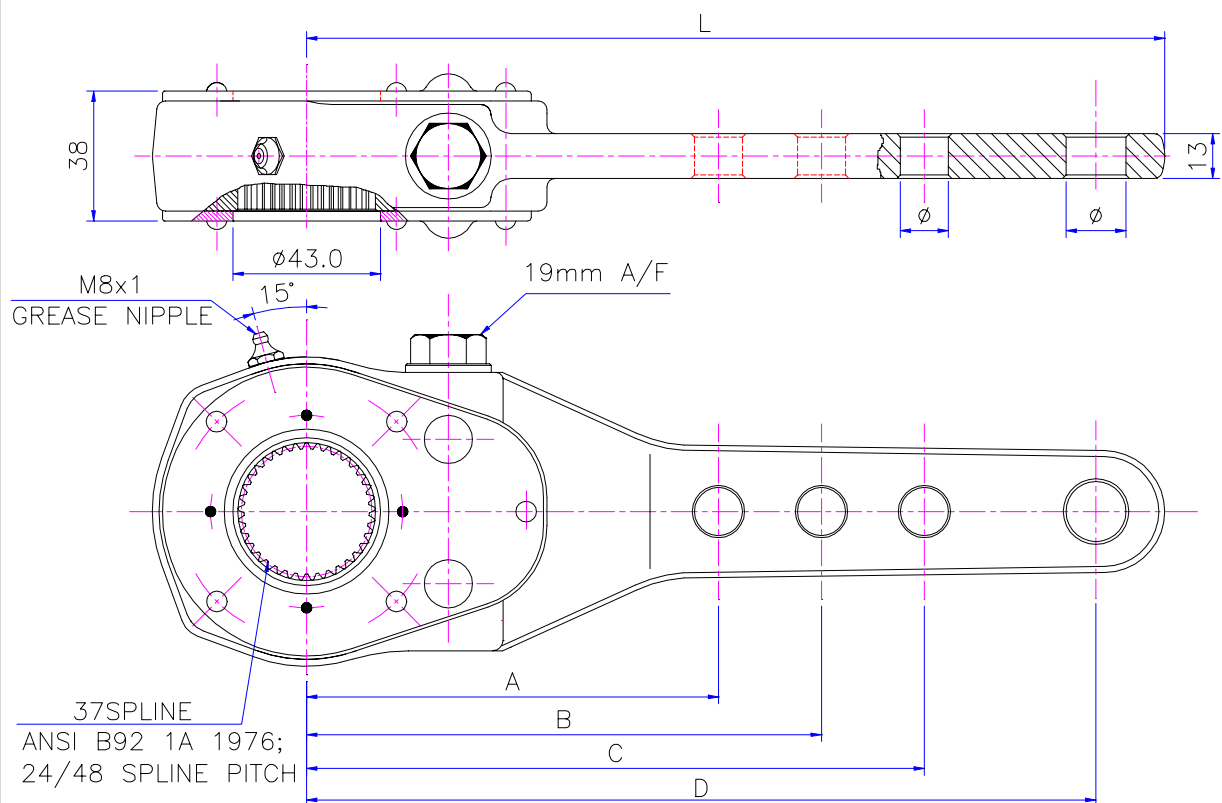
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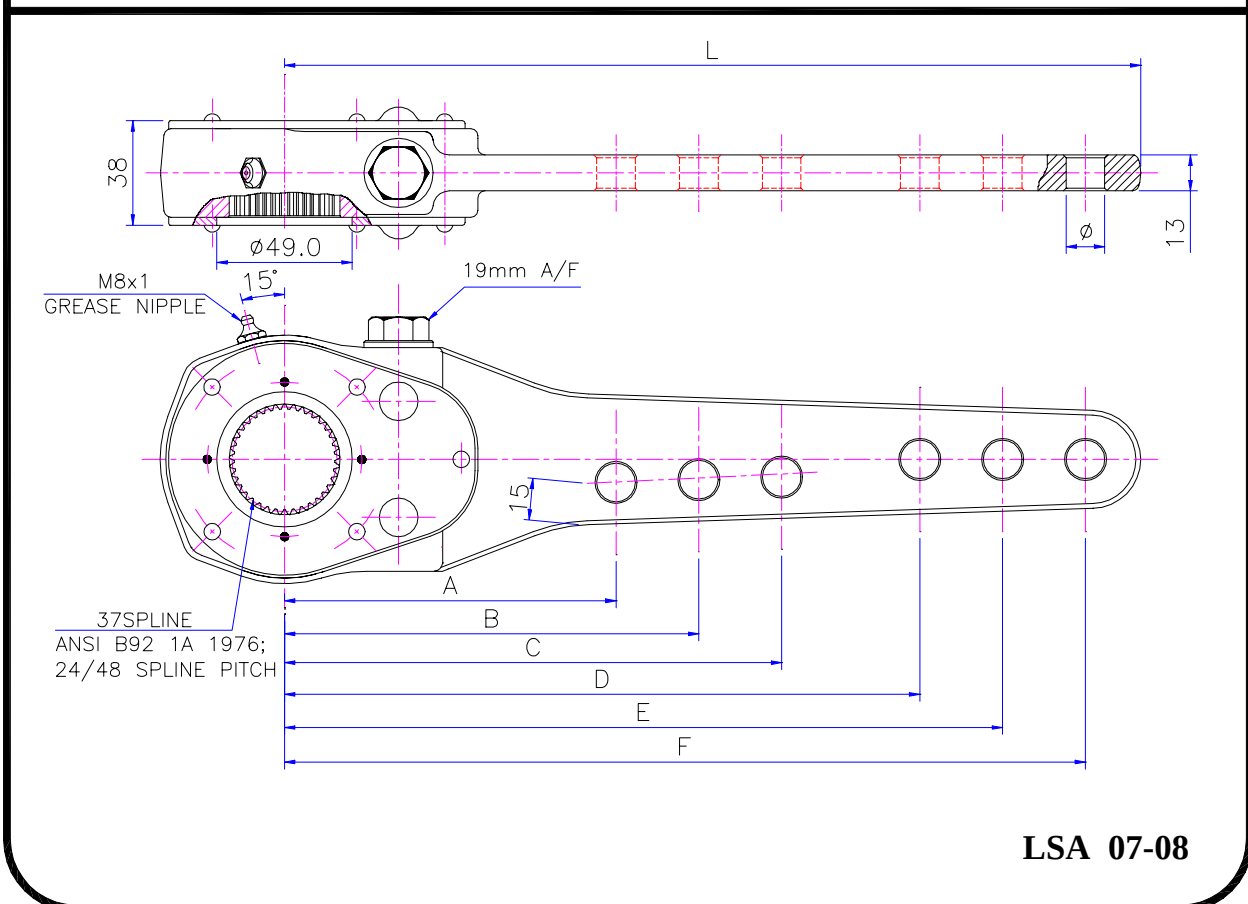
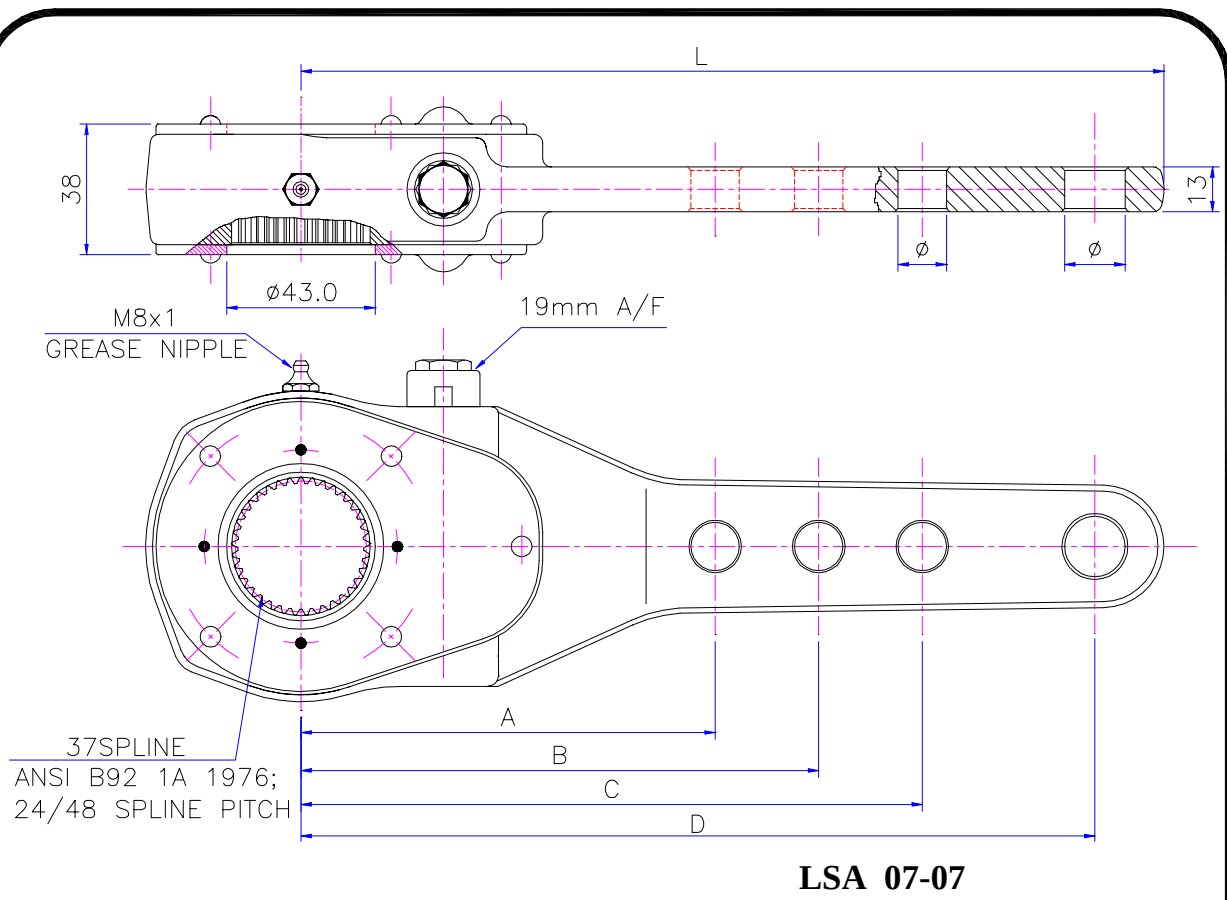
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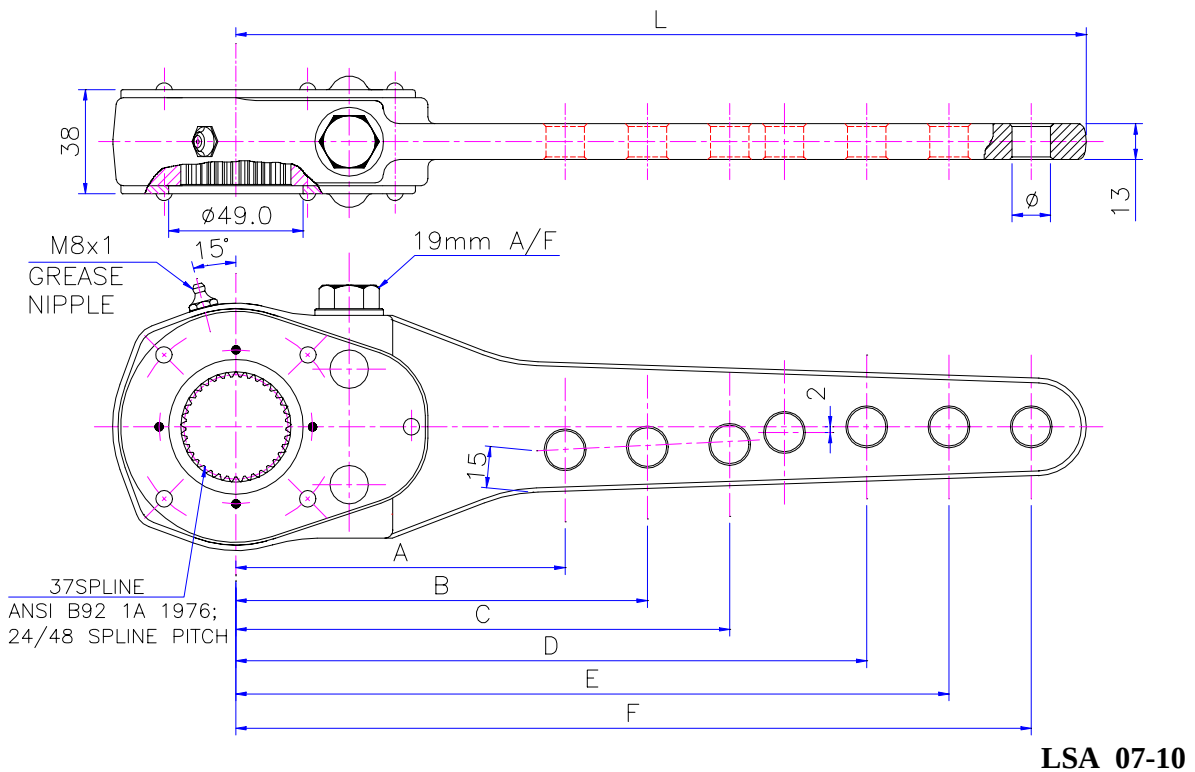
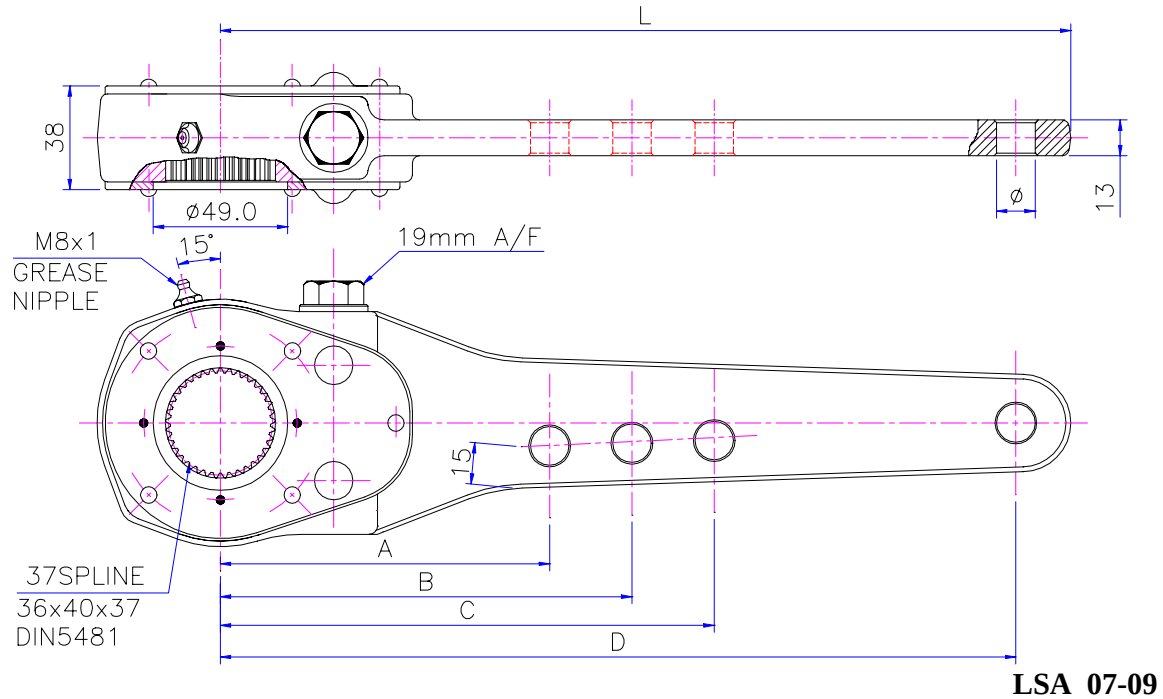


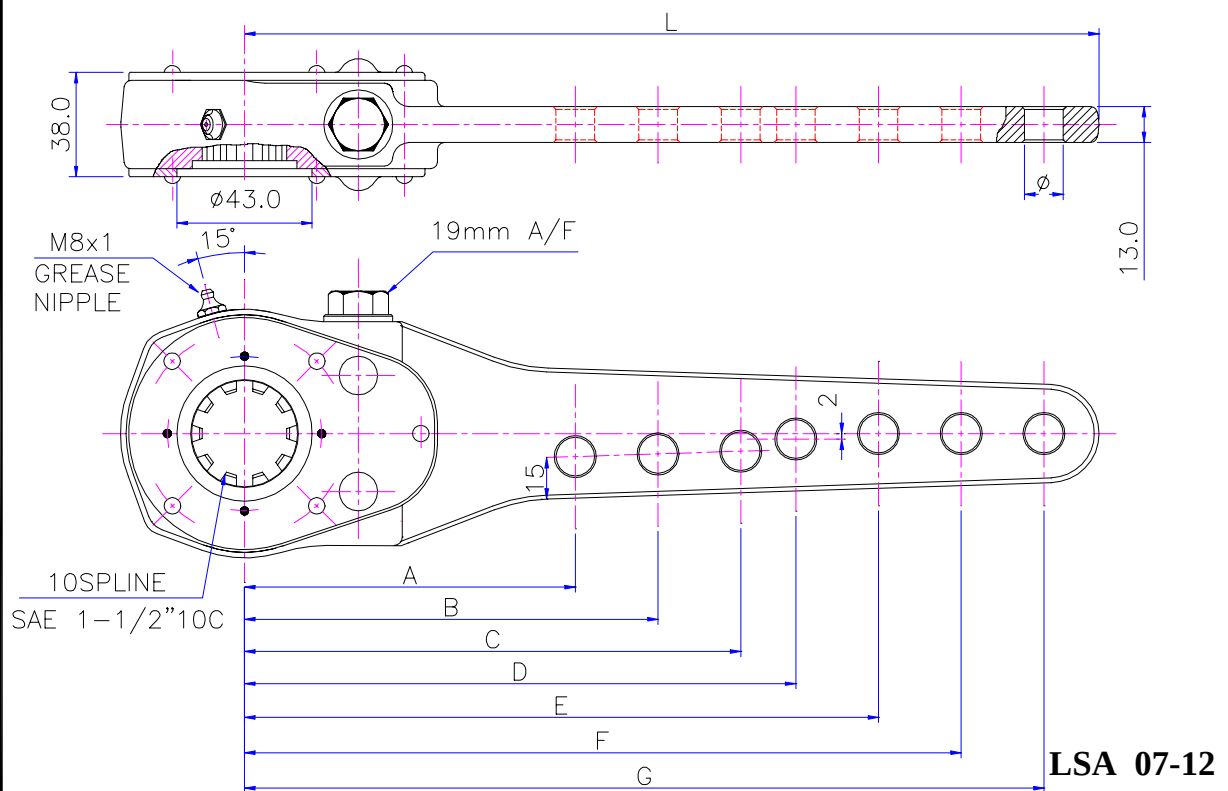
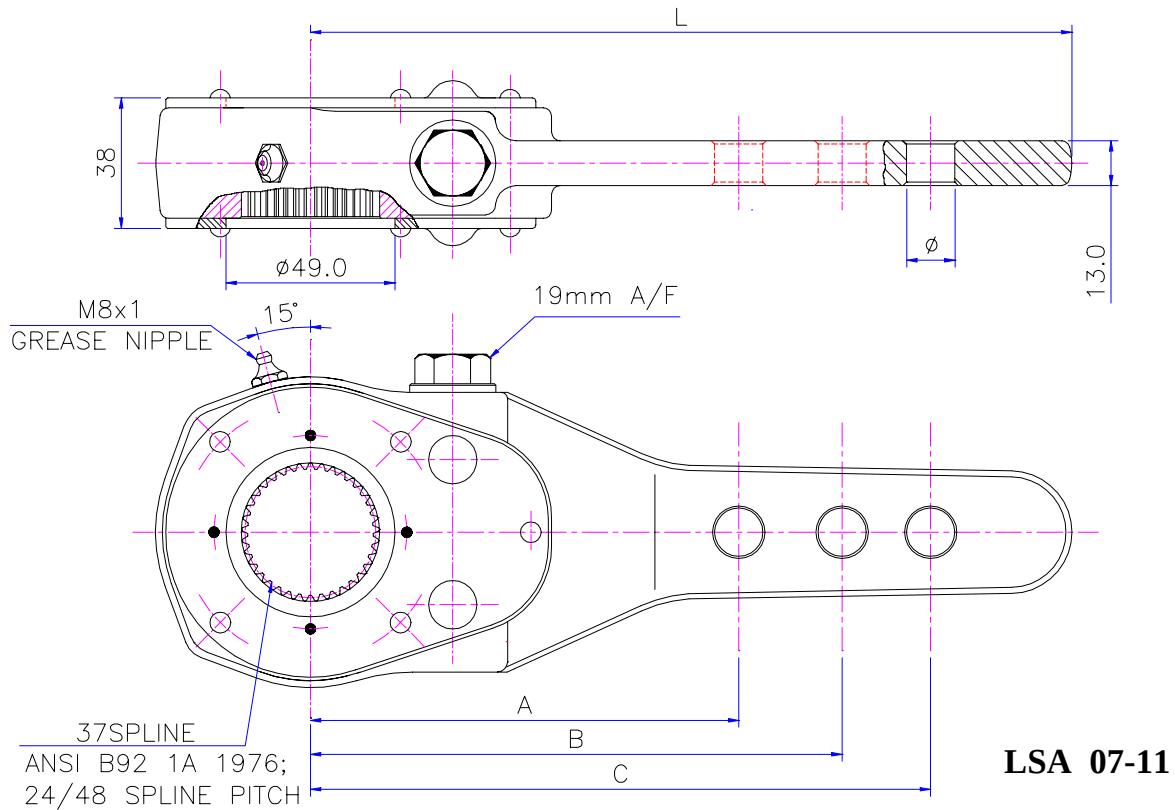
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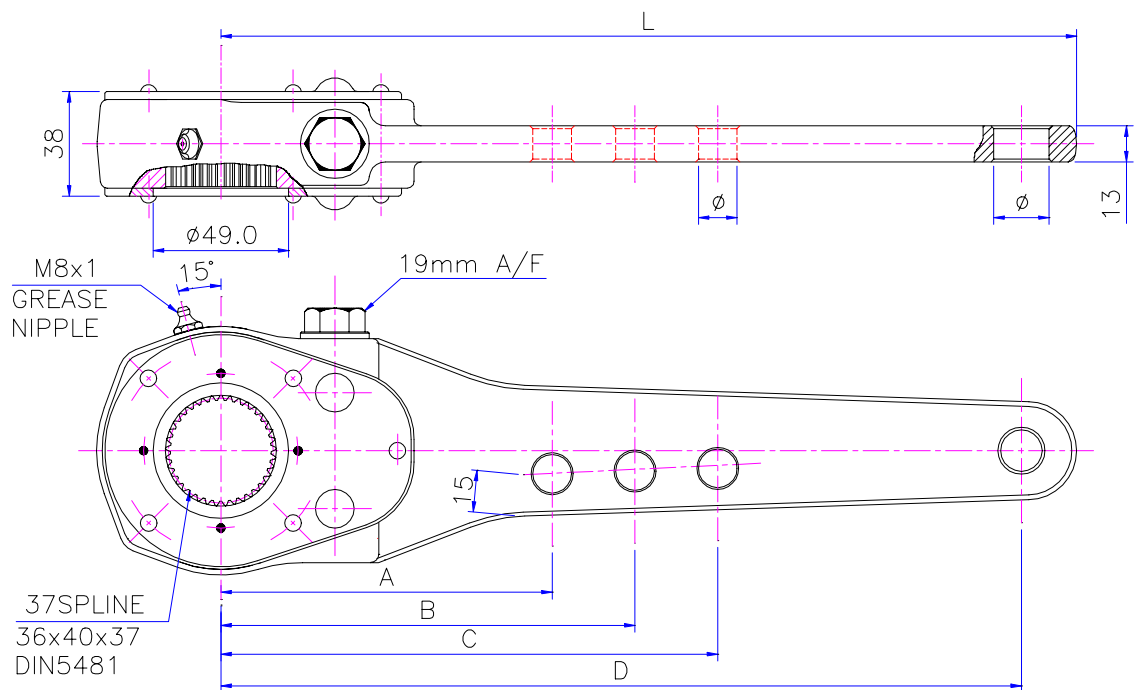
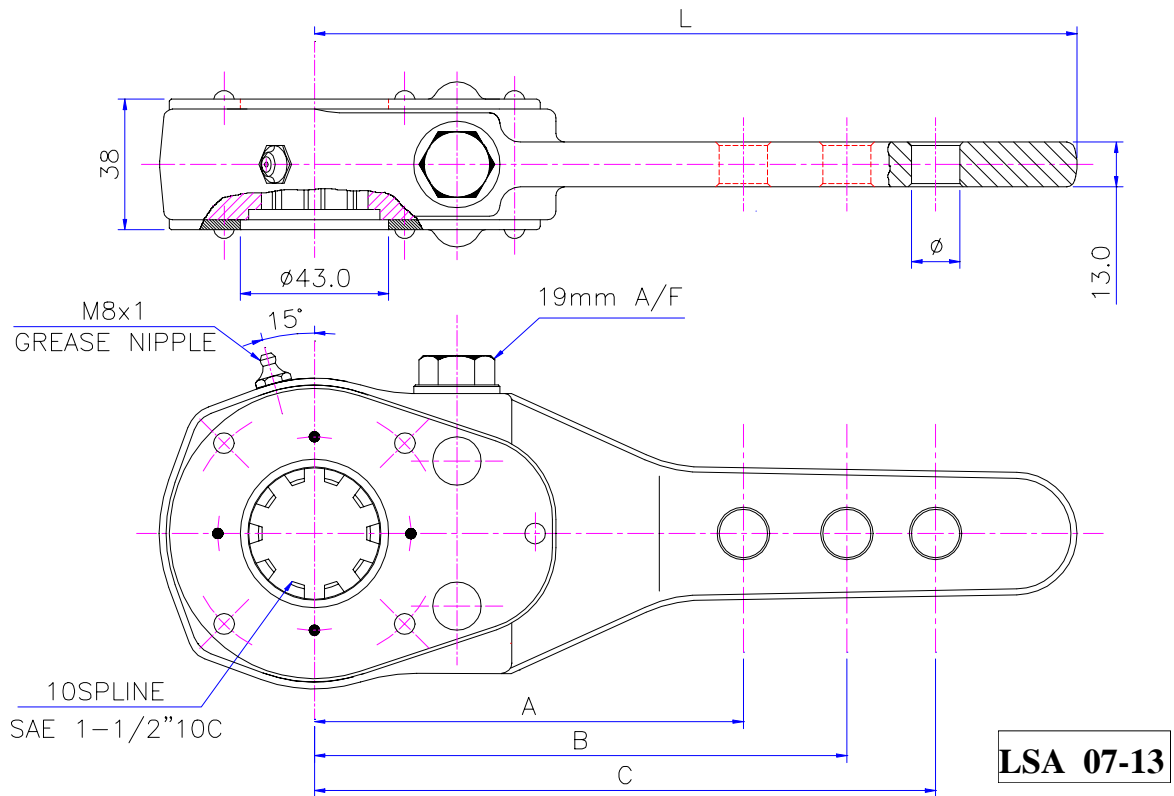


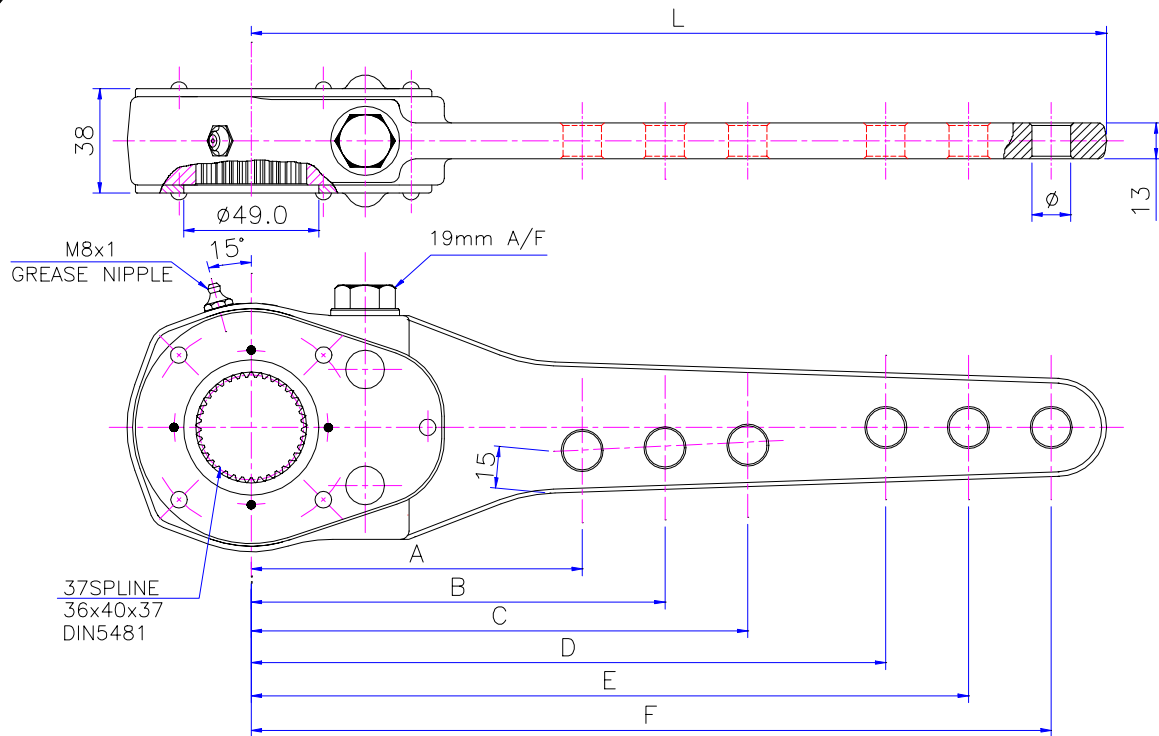
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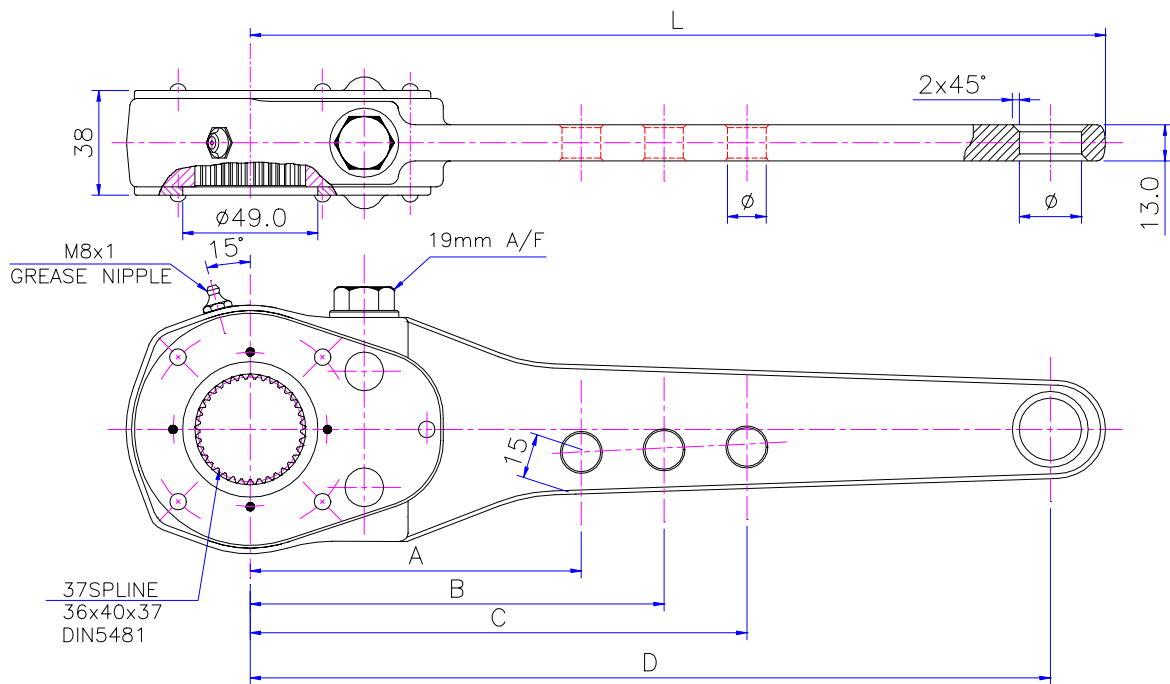








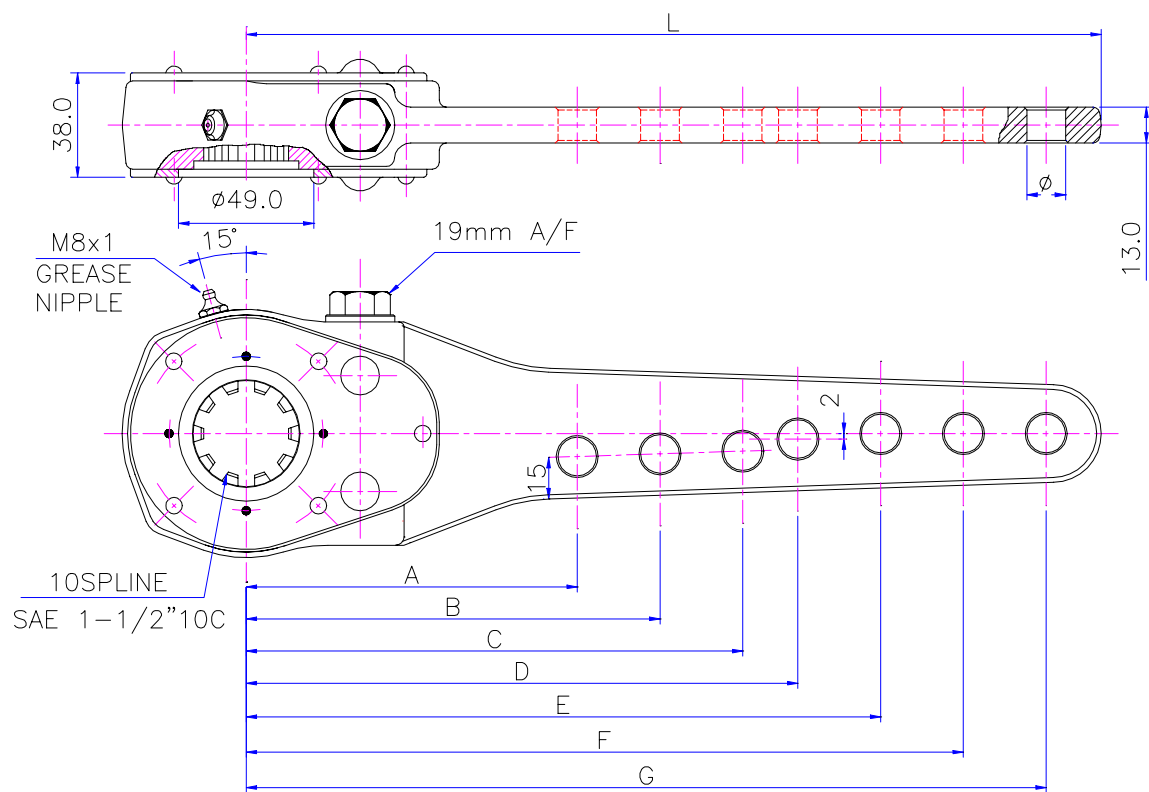
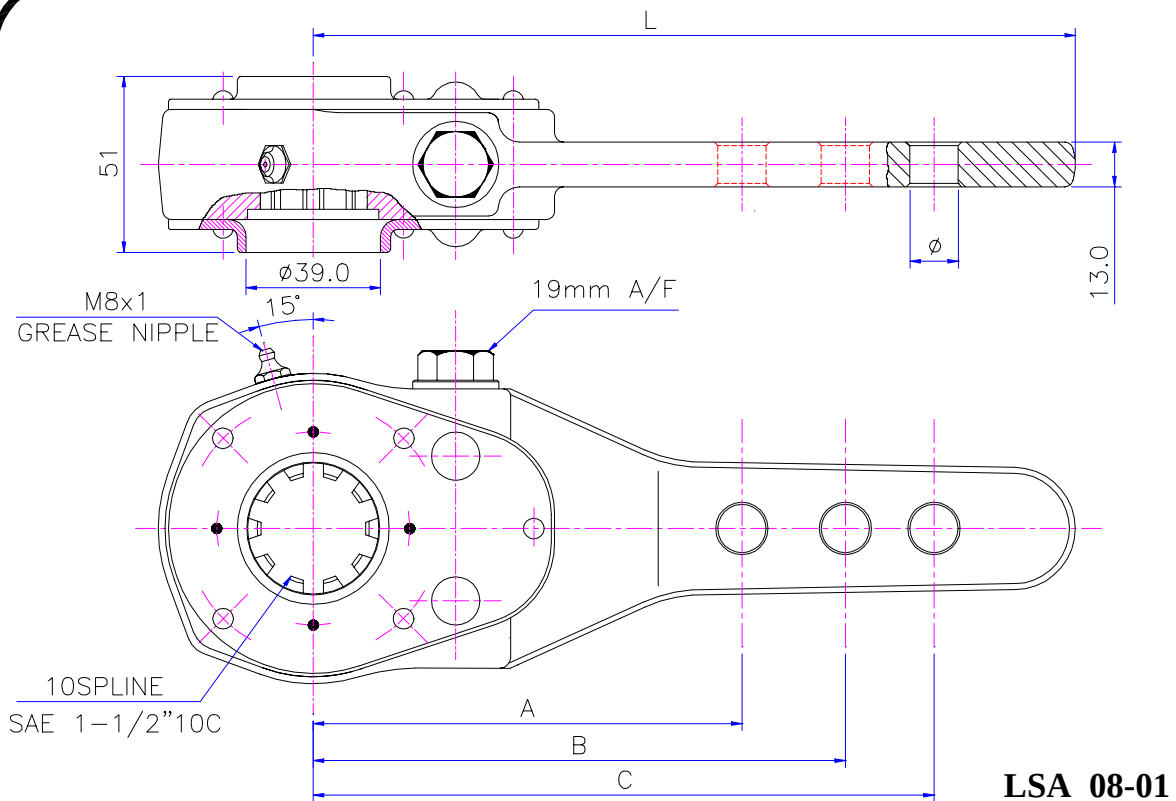
LSA 07-15



LSA 07-16

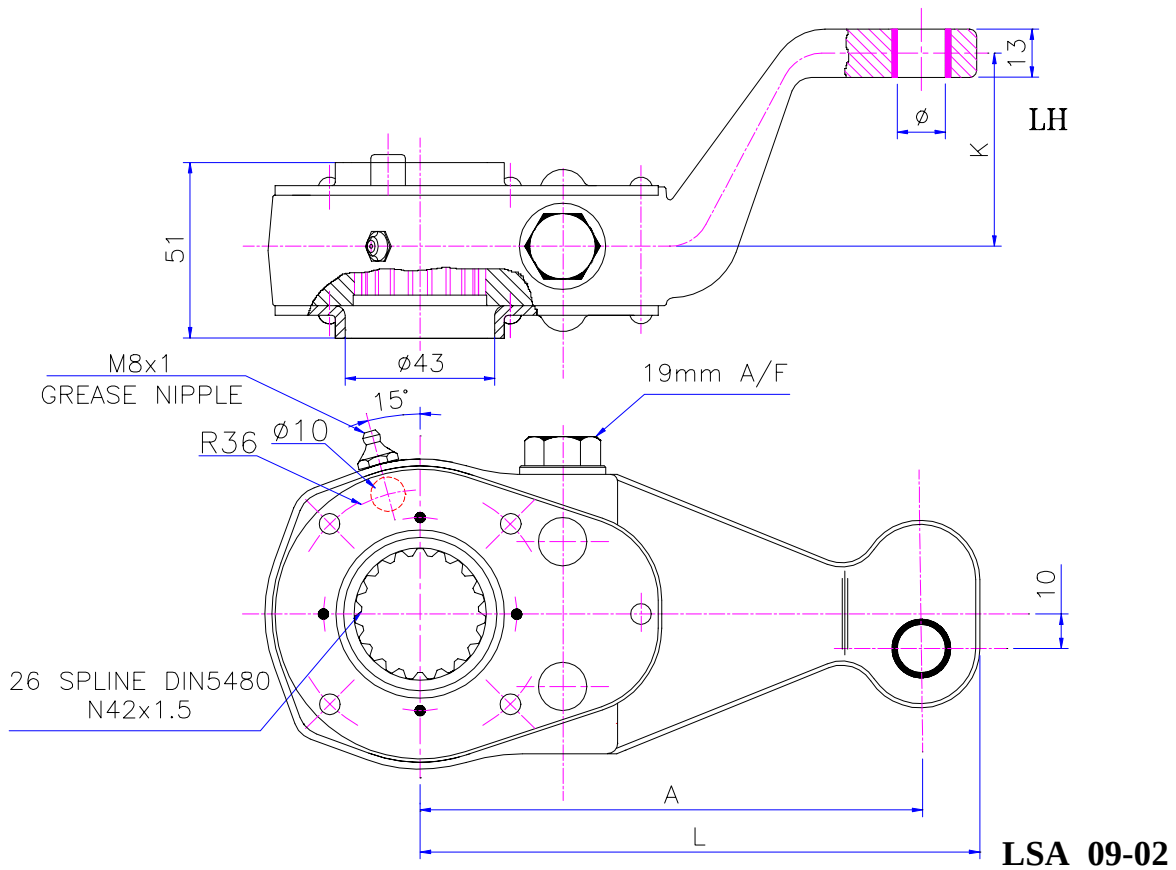
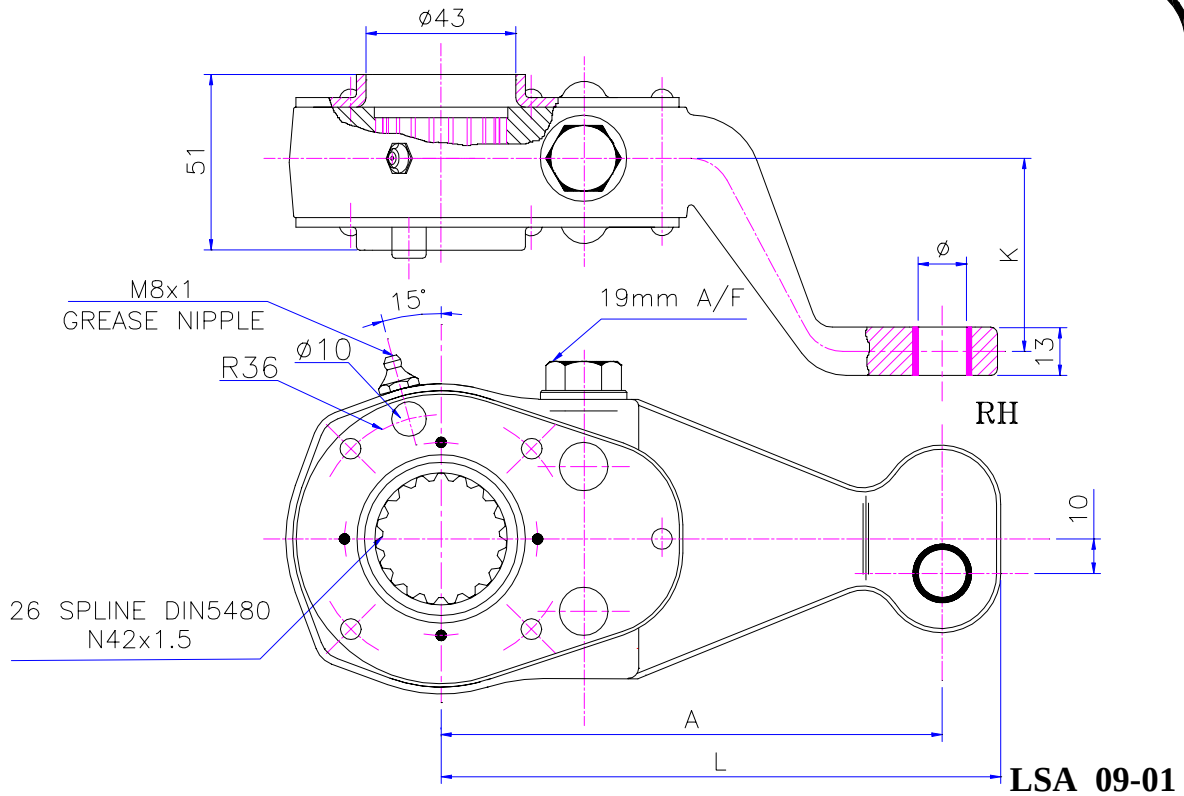


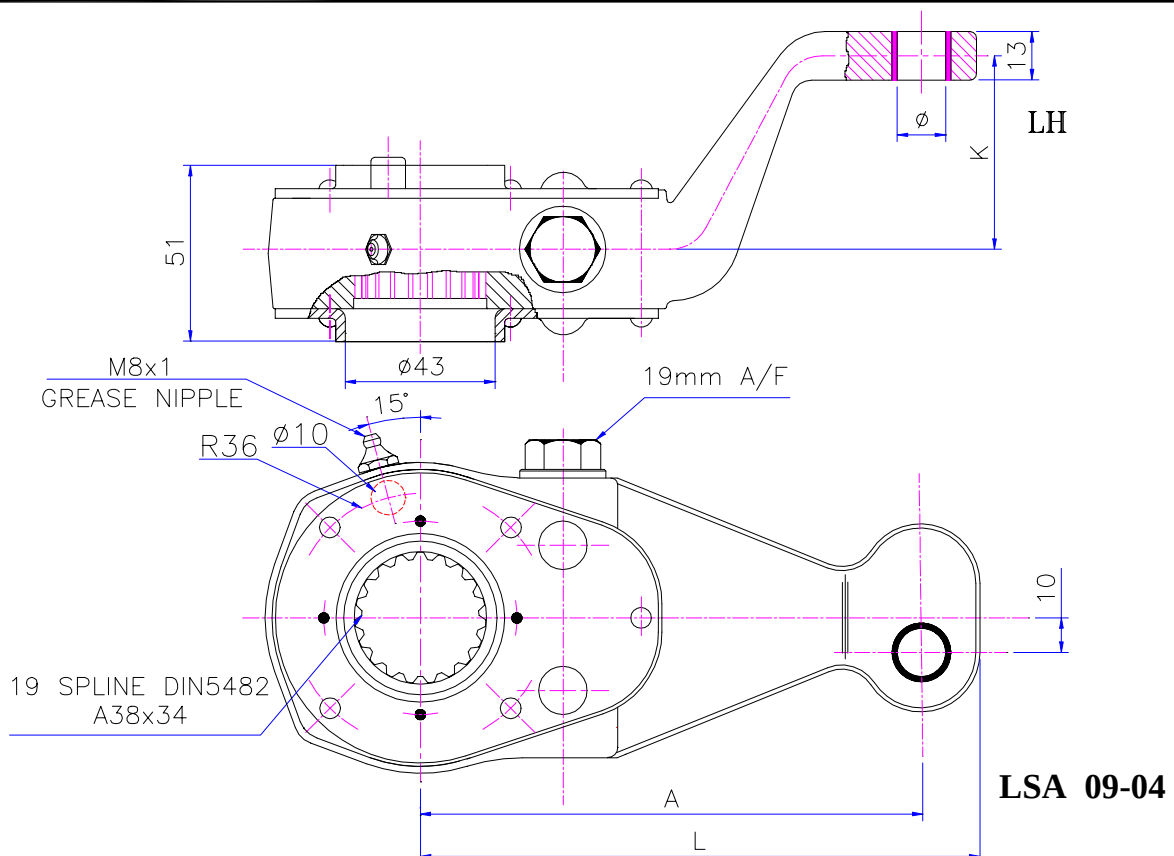
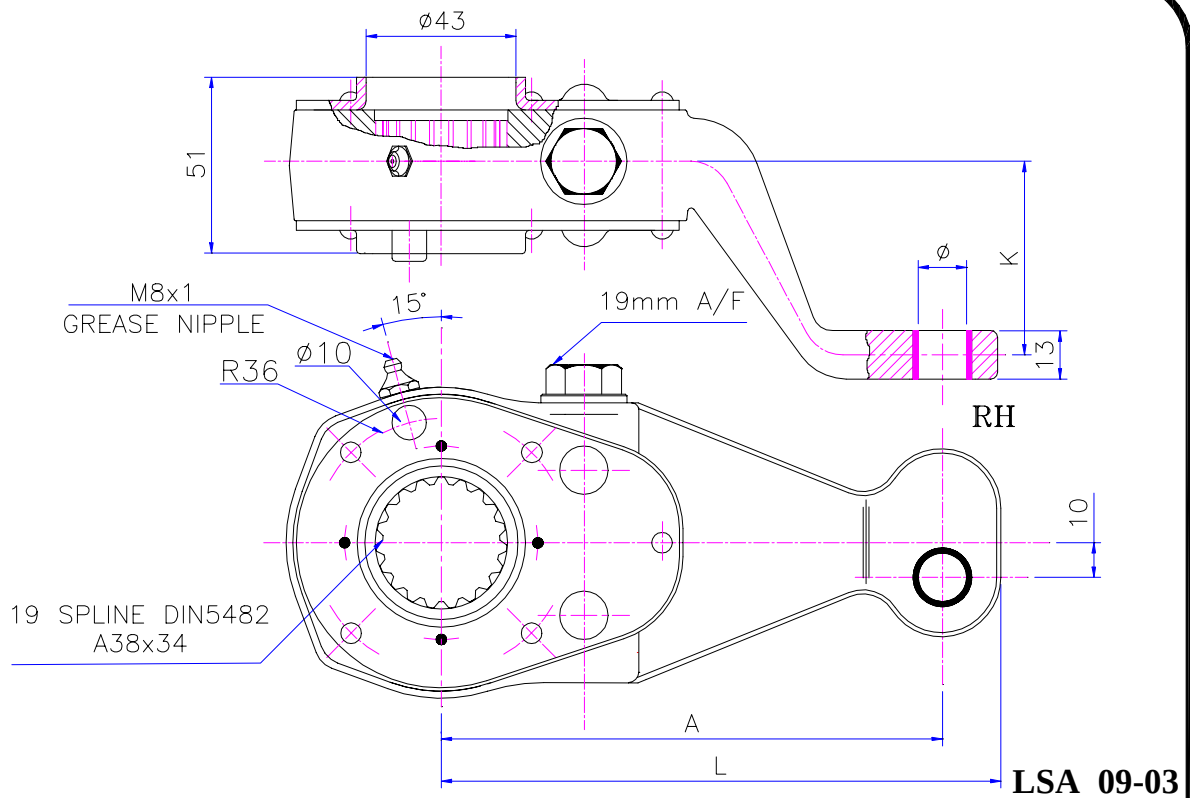
LSA PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET	LENGTH	TYPE
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LSA 07-01	8.241.016.231	120/14.0	150/14.0	180/14.0	200/14.0	230/14.0	260/14.0	290/14.0	-	310	straight
LSA 07-02	8.241.037.367	120/14.0	150/14.0	180/14.0					-	218	straight
LSA 07-03		120/14.0	150/14.0	180/14.0	230/14.0	260/14.0	290/14.0		-	310	Straight
LSA 07-04		120/14.0	150/14.0	180/14.0					-	218	Straight
LSA 07-05		120/14.0	150/14.0	180/14.0	200/14.0	230/14.0	260/14.0	290/14.0	-	310	Straight
LSA 07-06		120/14.0	150/14.0	180/14.0	230/17.5				-	250	Straight
LSA 07-07		120/14.0	150/14.0	180/14.0	230/17.5				-	250	Straight
LSA 07-08		120/14.0	150/14.0	180/14.0	230/14.0	260/14.0	290/14.0		-	310	Straight
LSA 07-09		120/14.0	150/14.0	180/14.0	290/14.0				-	310	Straight
LSA 07-10		120/14.0	150/14.0	180/14.0	200/14.0	230/14.0	260/14.0	290/14.0	-	310	Straight
LSA 07-11		120/14.0	150/14.0	180/14.0					-	218	Straight
LSA 07-12		120/14.0	150/14.0	180/14.0	200/14.0	230/14.0	260/14.0	290/14.0	-	310	Straight
LSA 07-13		120/14.0	150/14.0	180/14.0					-	218	Straight
LSA 07-14	8.283.000.562	120/14.0	150/14.0	180/14.0	290/16.0				-	310	Straight
LSA 07-15		120/14.0	150/14.0	180/14.0	230/14.0	260/14.0	290/14.0		-	310	Straight
LSA 07-16		120/14.0	150/14.0	180/14.0	290/18.0				-	310	Straight

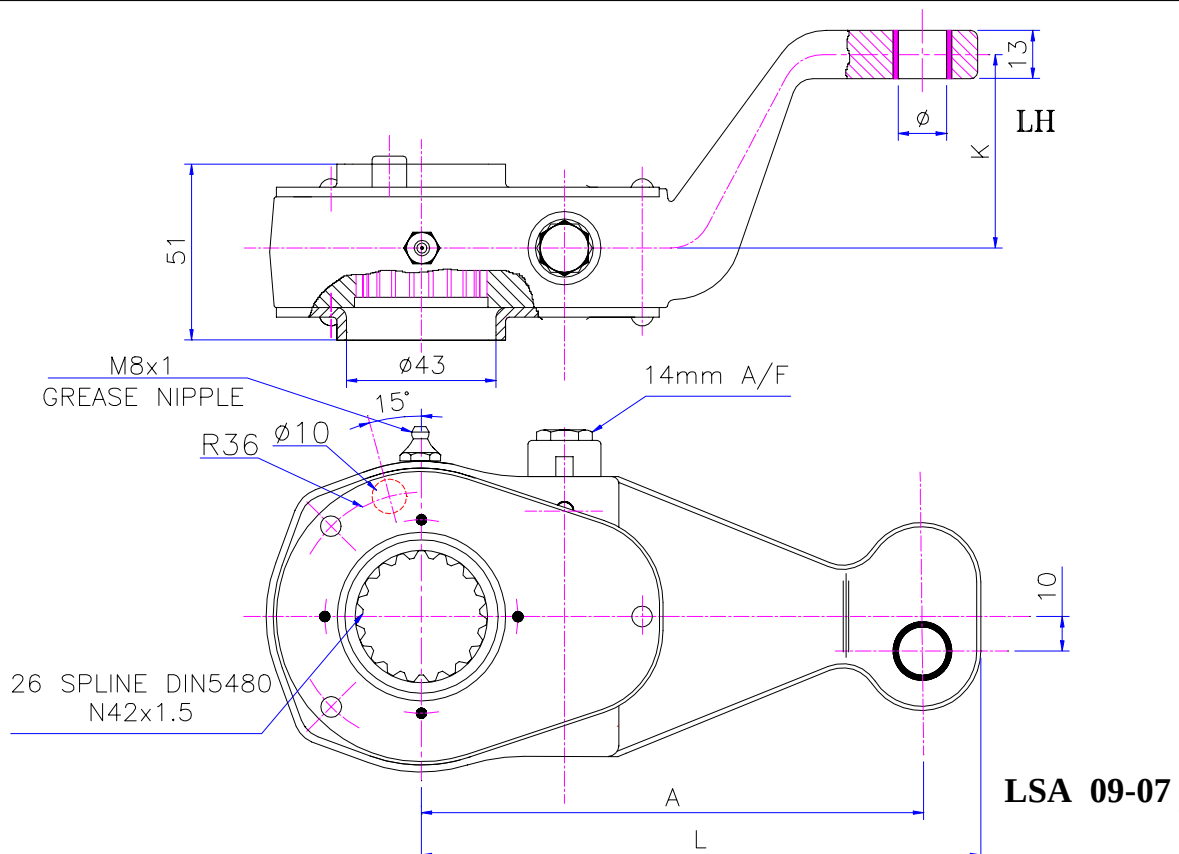
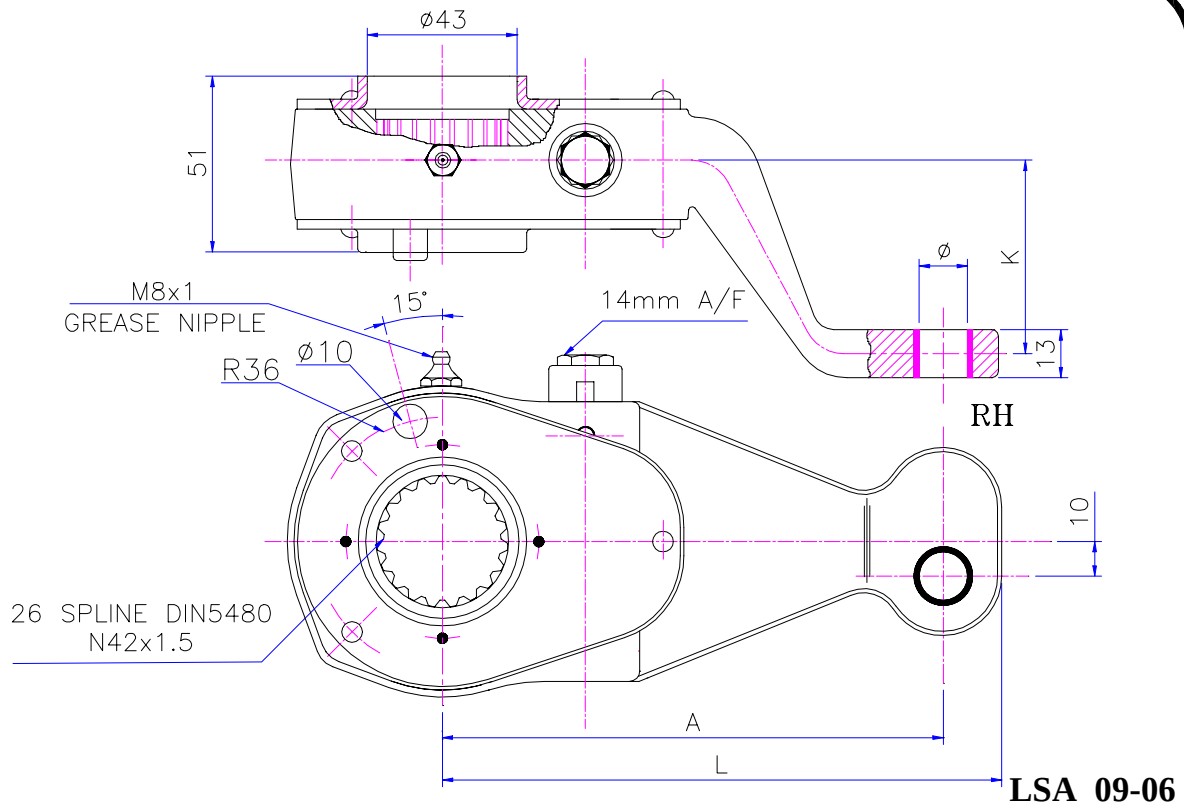


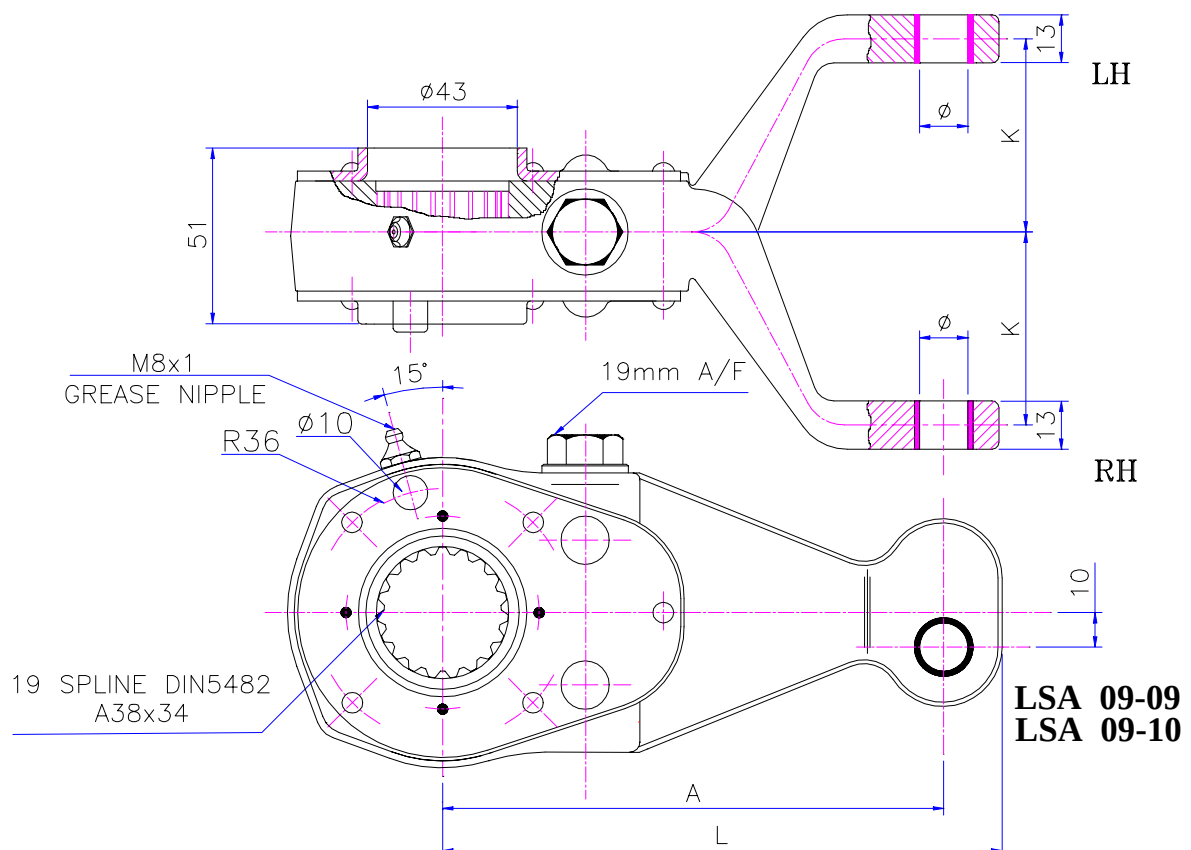
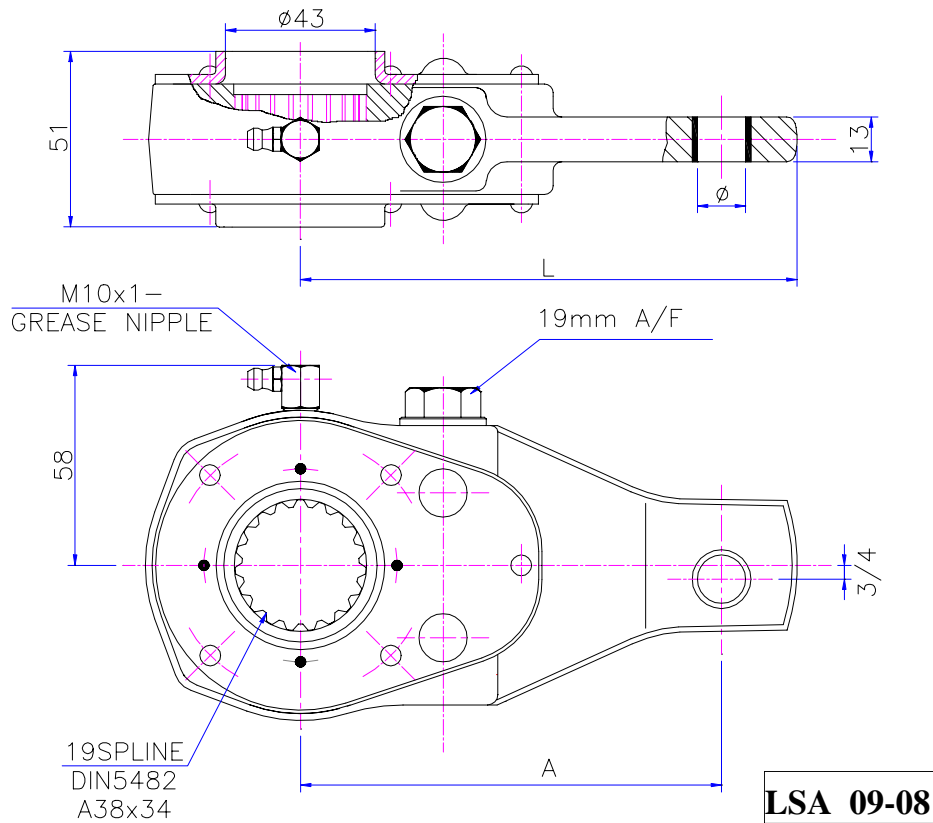


LSA PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET	LENGTH	TYPE
		A - Ø	B - Ø	C - Ø	D - Ø	E - Ø	F - Ø	G - Ø	K	L	
LSA 08-01	412.130	120/14.0	150/14.0	180/14.0					-	218	Straight
LSA 08-02	412.132	120/14.0	150/14.0	180/14.0	200/14.0	230/14.0	260/14.0	290/14.0	-	310	Straight



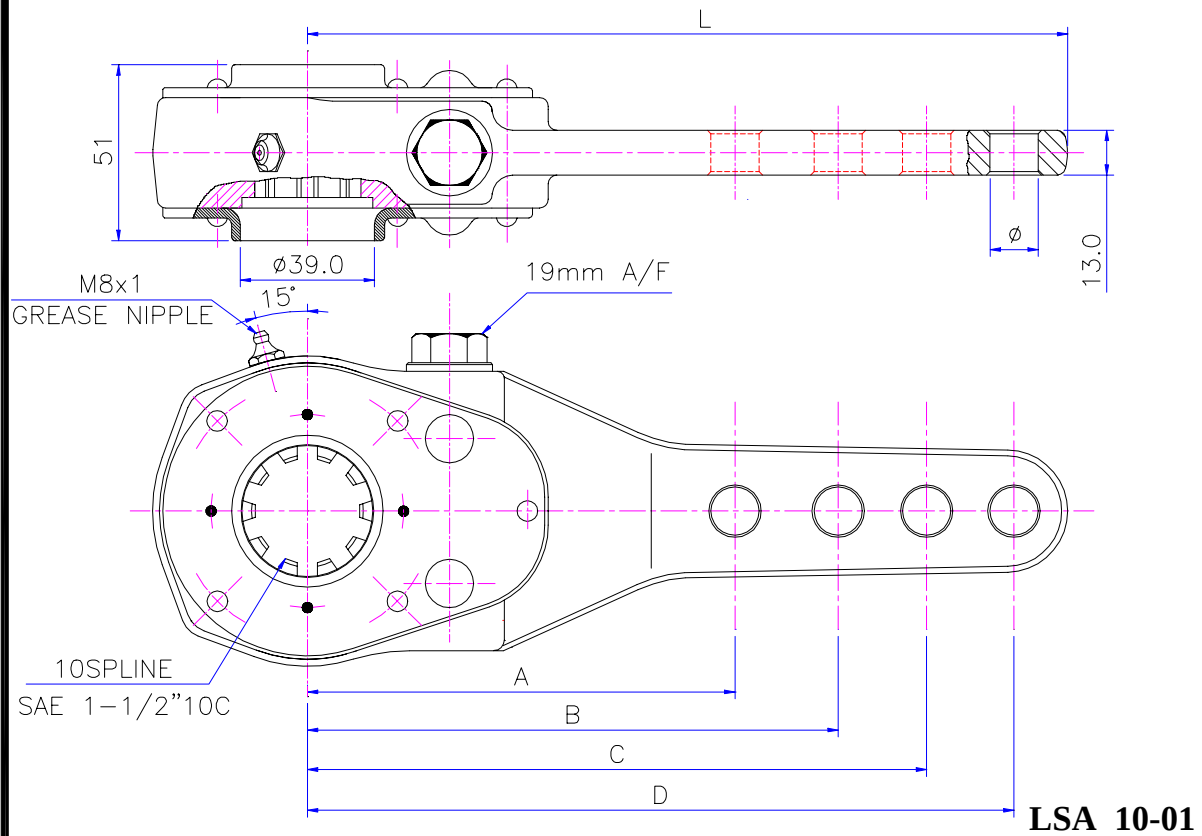








LSA PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET	LENGTH	TYPE
		A - Ø	B - Ø	C - Ø	D - Ø	E - Ø	F - Ø	G - Ø	K	L	
LSA 09-01	346.420.17.38	145/14.0							56	161	RH
LSA 09-02	346.420.18.38	145/14.0							56	161	LH
LSA 09-03		145/14.0							56	161	RH
LSA 09-04		145/14.0							56	161	LH
LSA 09-06		145/14.0							56	161	RH
LSA 09-07		145/14.0							56	161	LH
LSA 09-08		122/14.0							-	145	straight
LSA 09-09		145/14.0							56	161	RH
LSA 09-10		145/14.0							56	161	LH

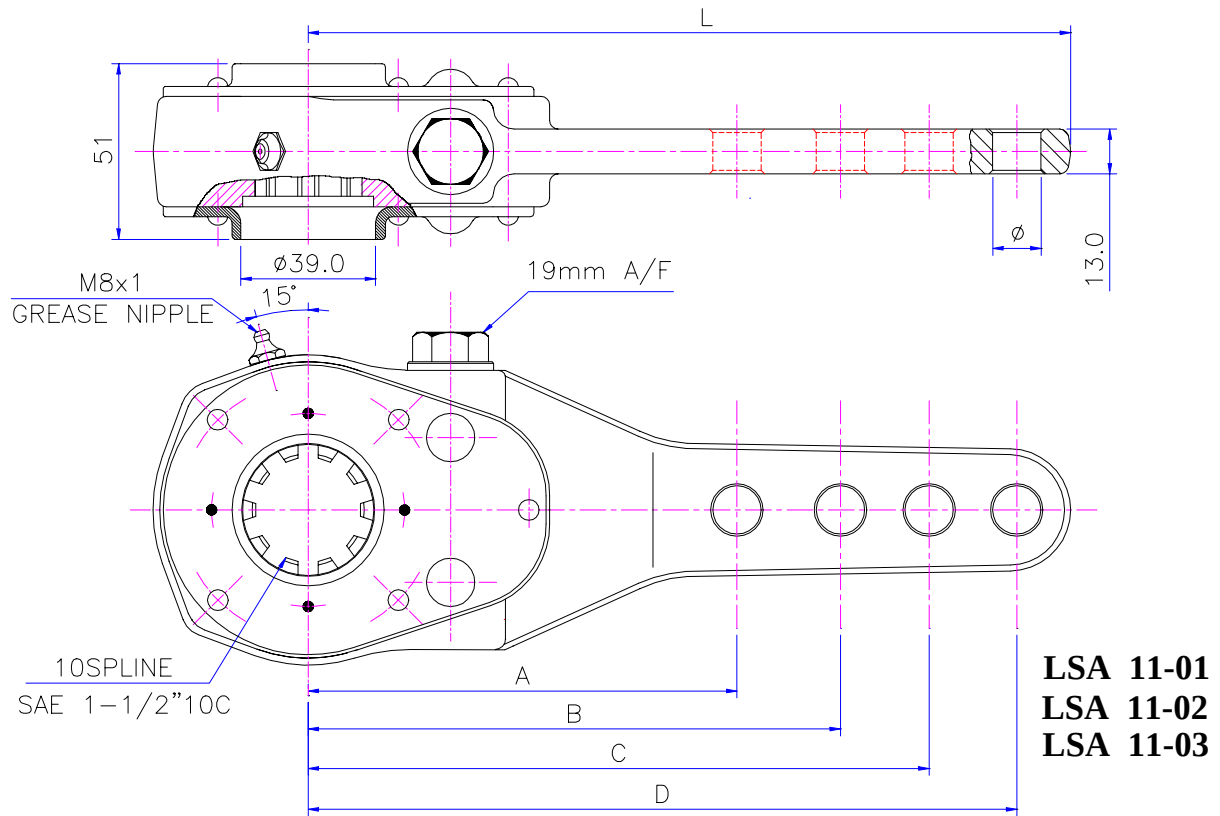


MEI PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET K	LENGTH L	TYPE
		A - Ø	B - Ø	C - Ø	D - Ø	E - Ø	F - Ø	G - Ø			
LSA 10-01	06.1.1066	127/14.0	152/14.0	178/14.0	203/14.0				-	218	Straight

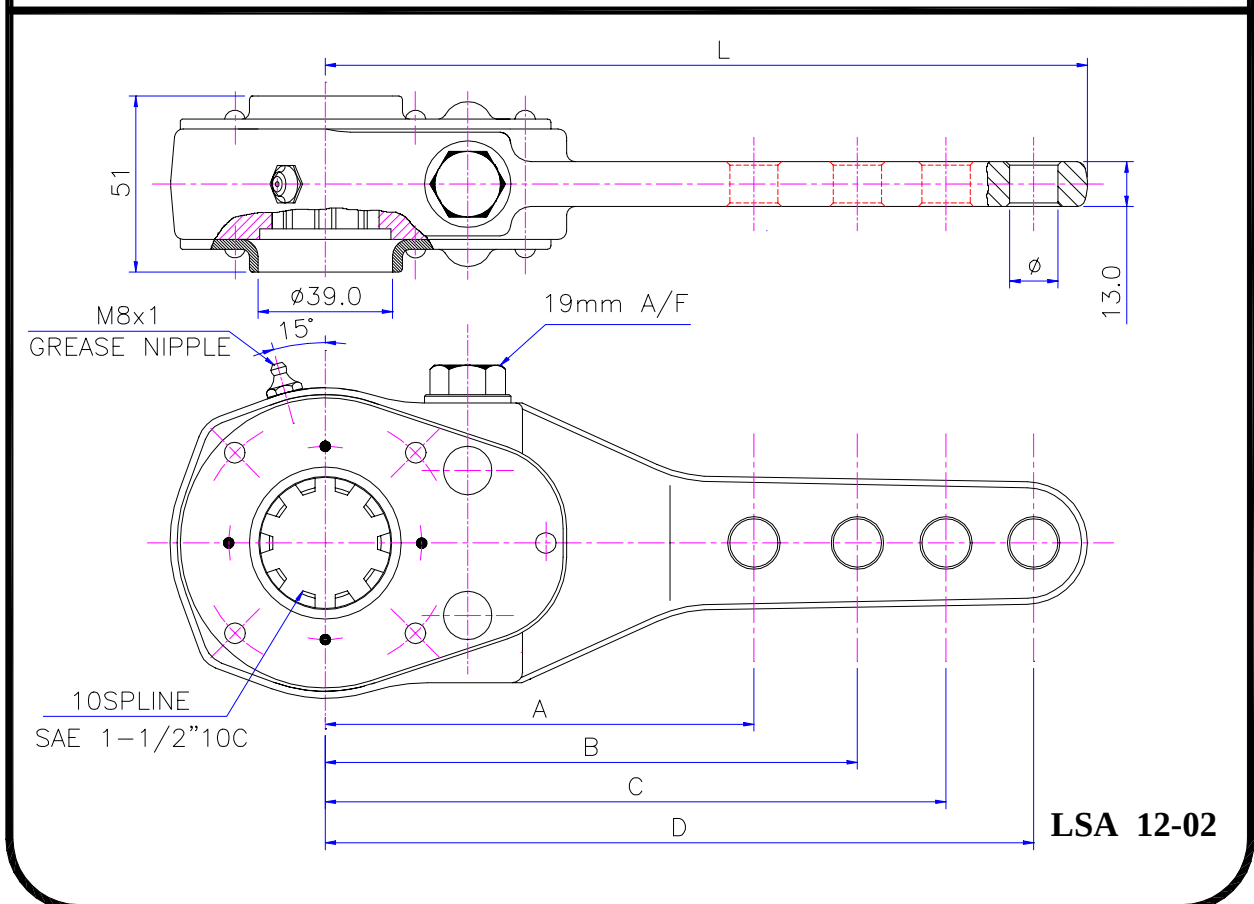
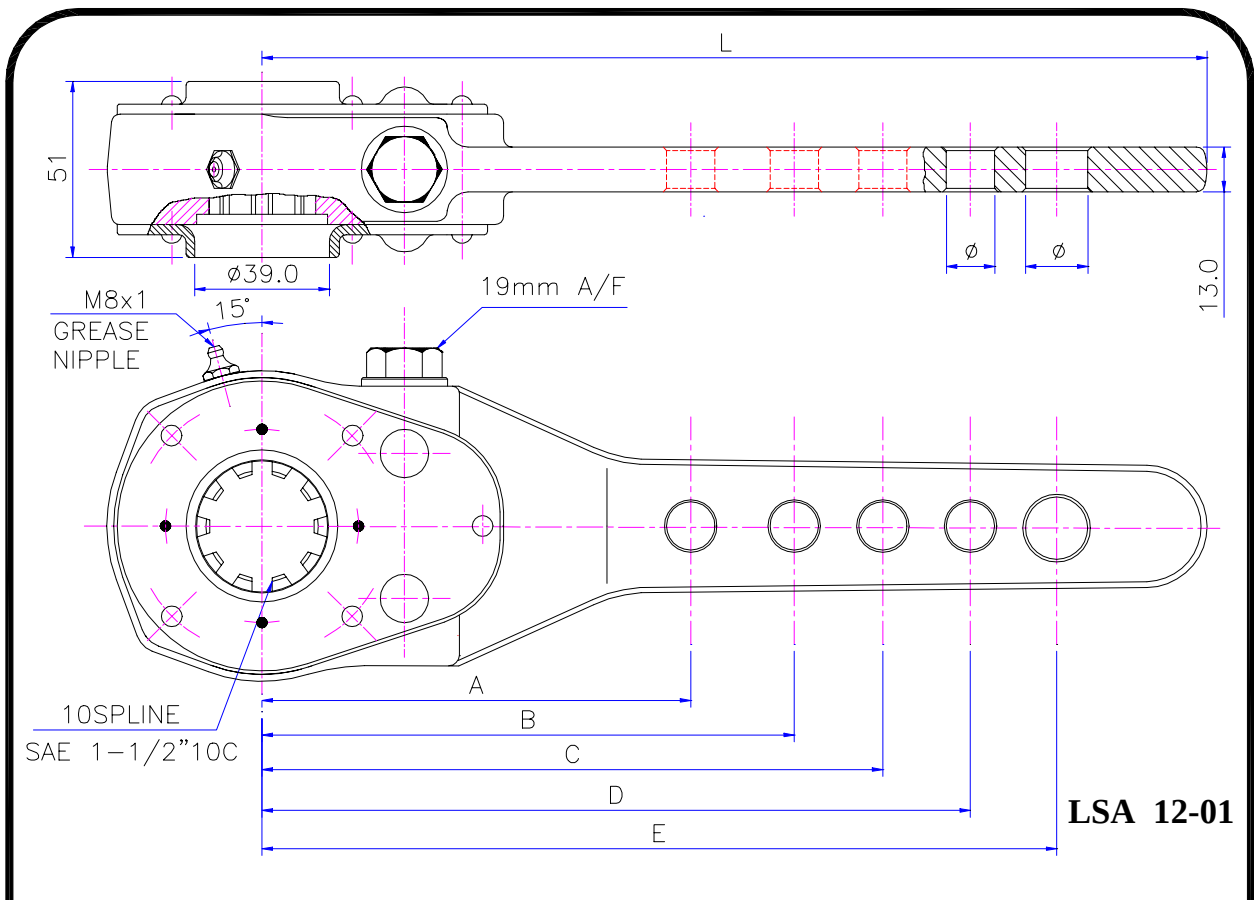


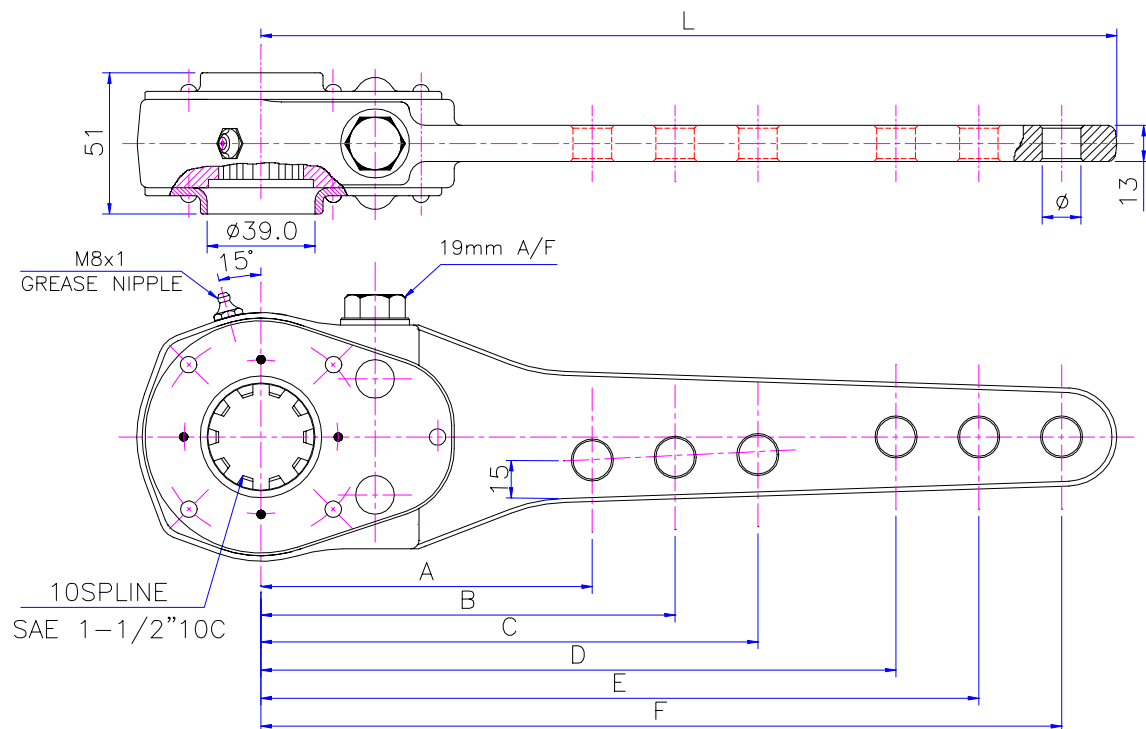
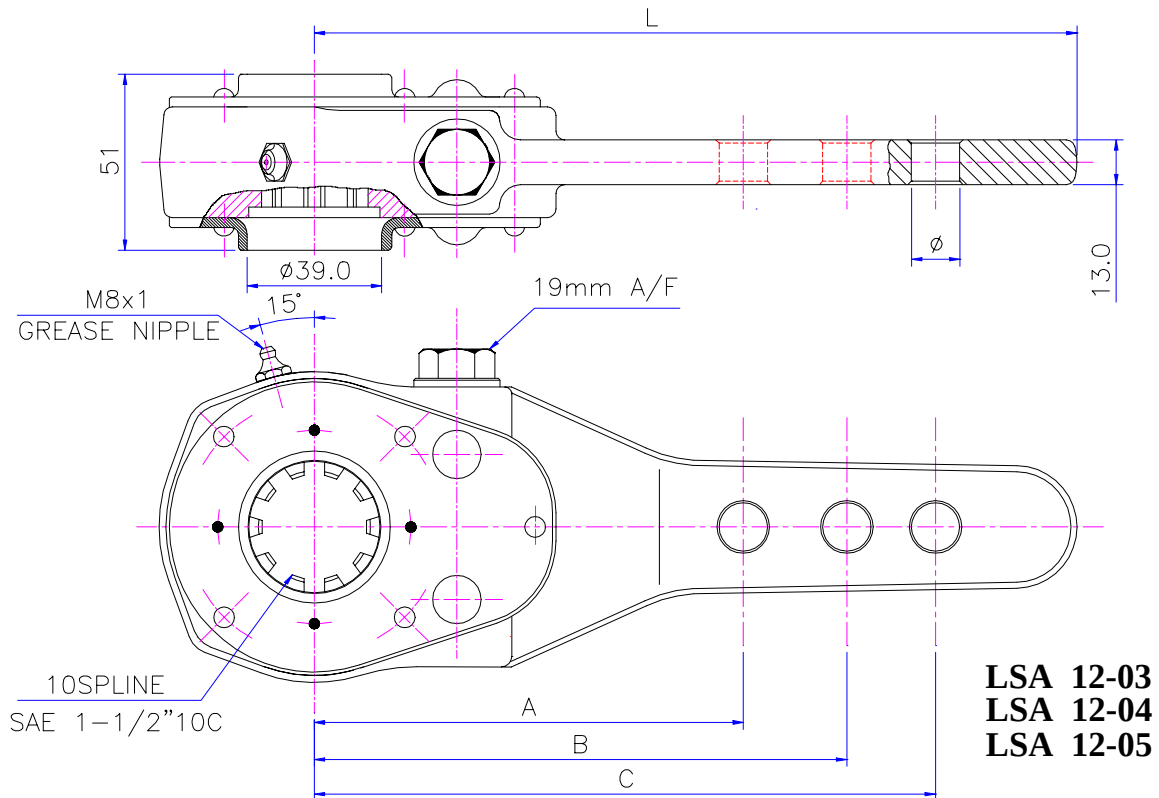
LUDAL LIMITED

RUBERY OWEN ROCKWELL (ROR)

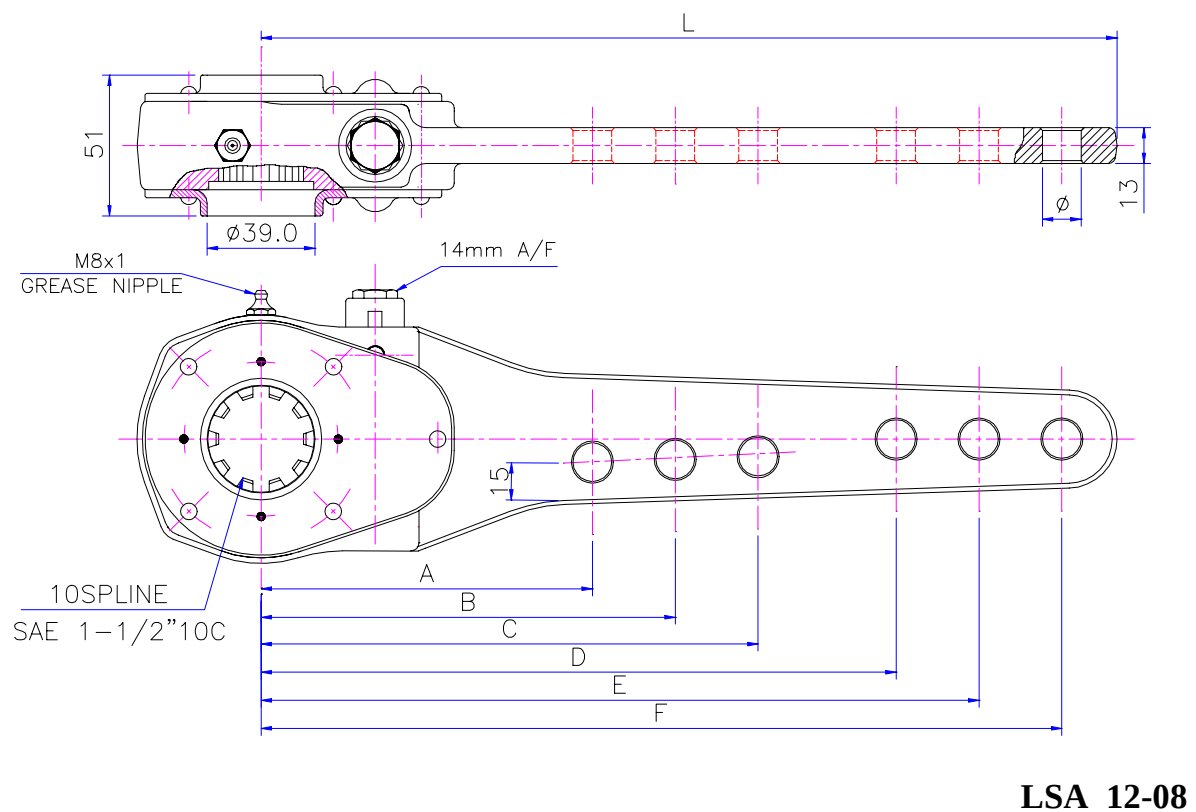
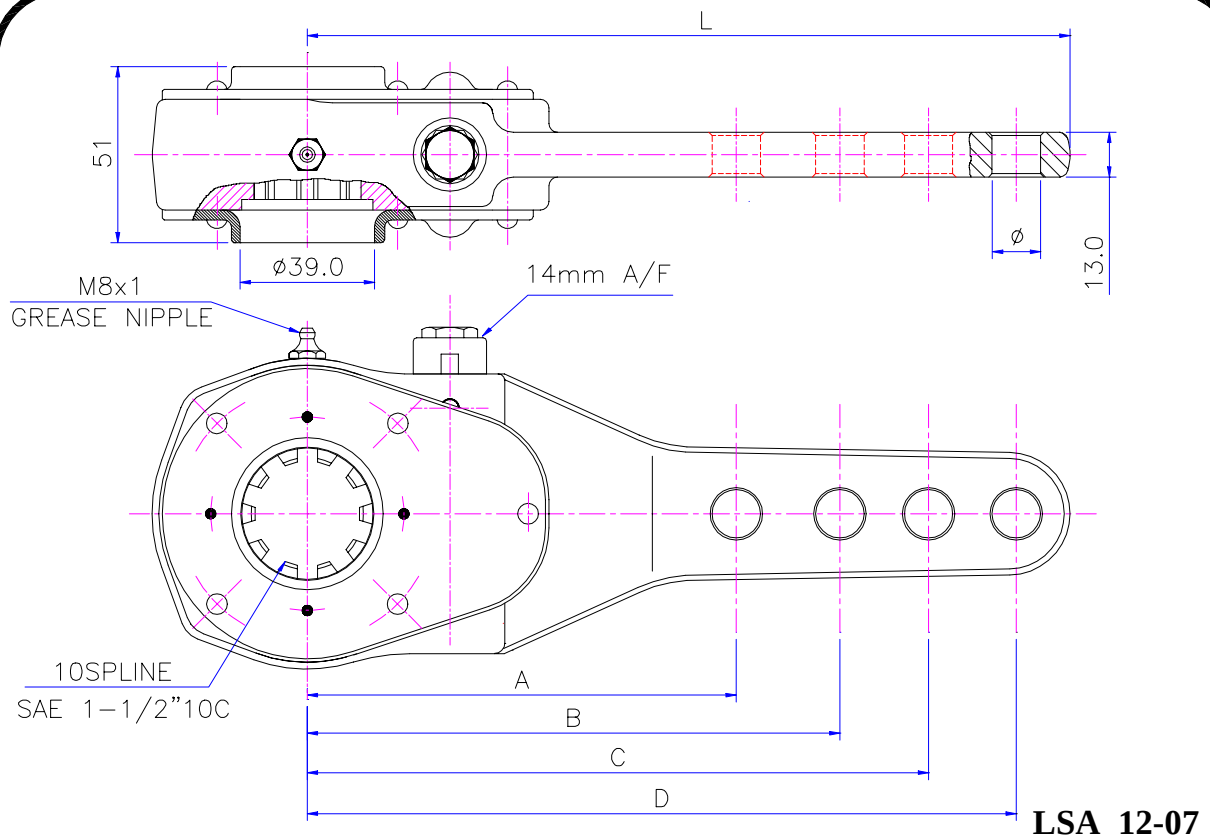


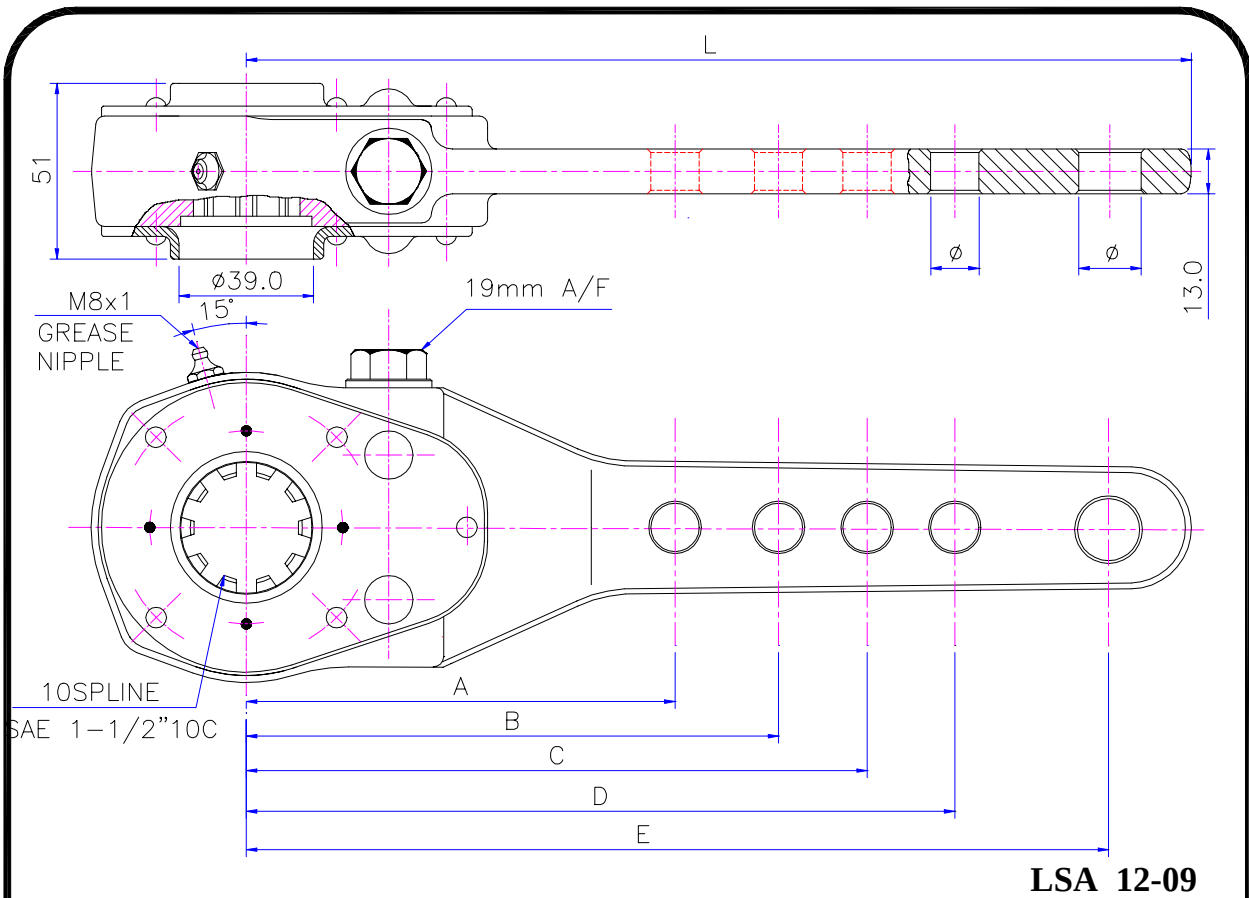
LSA PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET	LENGTH	TYPE
		A - Ø	B - Ø	C - Ø	D - Ø	E - Ø	F - Ø	G - Ø			
LSA 11-01		127/14.0	152/14.0	178/14.0	203/14.0				-	218	Straight
LSA 11-02	210.13.180	127/12.7	152/12.7	178/12.7	203/12.7				-	218	Straight
LSA 11-03		120/14.0	150/14.0	180/14.0					-	218	Straight





LSA 12-06





LSA PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET K	LENGTH L	TYPE
		A - Ø	B - Ø	C - Ø	D - Ø	E - Ø	F - Ø	G - Ø			
LSA 12-01	2.175.0074.00	127/14.0	152/14.0	178/14.0	203/14.0	230/18.0			-	272	Straight
LSA 12-02		127/14.0	152/14.0	178/14.0	203/14.0				-	218	Straight
LSA 12-03		120/14.0	150/14.0	180/14.0					-	218	Straight
LSA 12-04		150/14.0	170/14.0	190/14.0					-	218	Straight
LSA 12-05	2.175.0077.00	102/14.0	127/14.0	152/14.0					-	170	Straight
LSA 12-06	2.175.0010.02	120/14.0	150/14.0	180/14.0	230/14.0	260/14.0	290/14.0		-	310	Straight
LSA 12-07		127/14.0	152/14.0	178/14.0	203/14.0				-	218	Straight
LSA 12-08		120/14.0	150/14.0	180/14.0	230/14.0	260/14	290/14		-	310	Straight
LSA 12-09		127/14.0	152/14.0	178/14.0	203/14.0	250/18			-	272	Straight



Technical drawing of a steering knuckle assembly, showing side and front views with dimensions and labels.

Side View Dimensions:

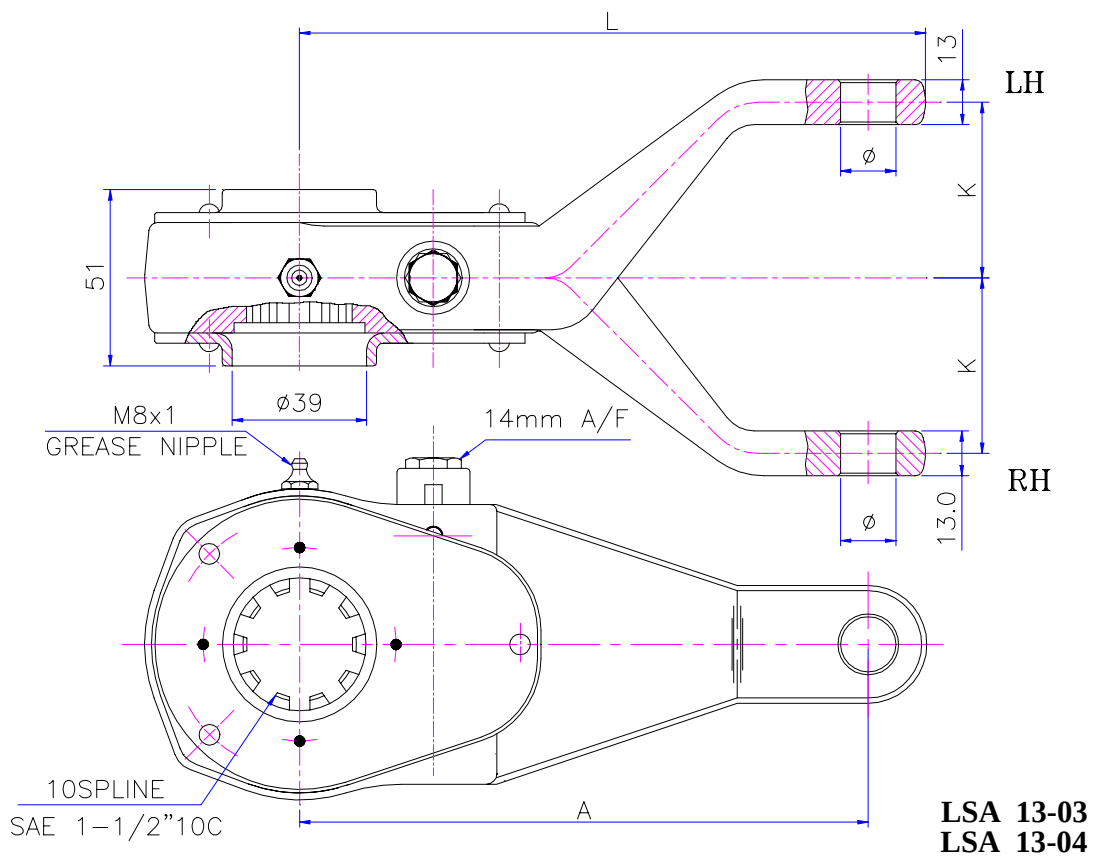
- Overall length: L
- Overall width: 51
- Pin diameter: ϕ
- Pin length: 13.0
- Pin thread: $M8 \times 1$
- Pin angle: 15°
- Pin diameter: $\phi 39.0$
- Pin length: 19mm A/F

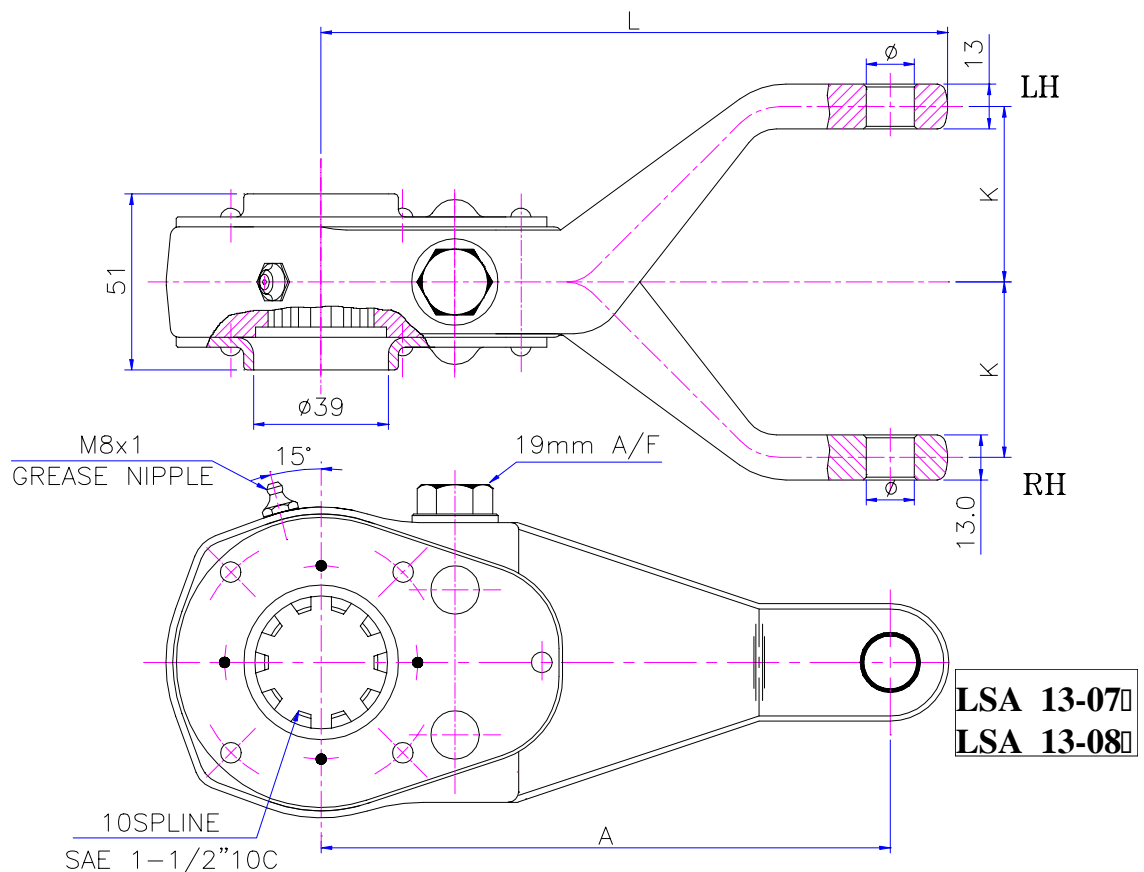
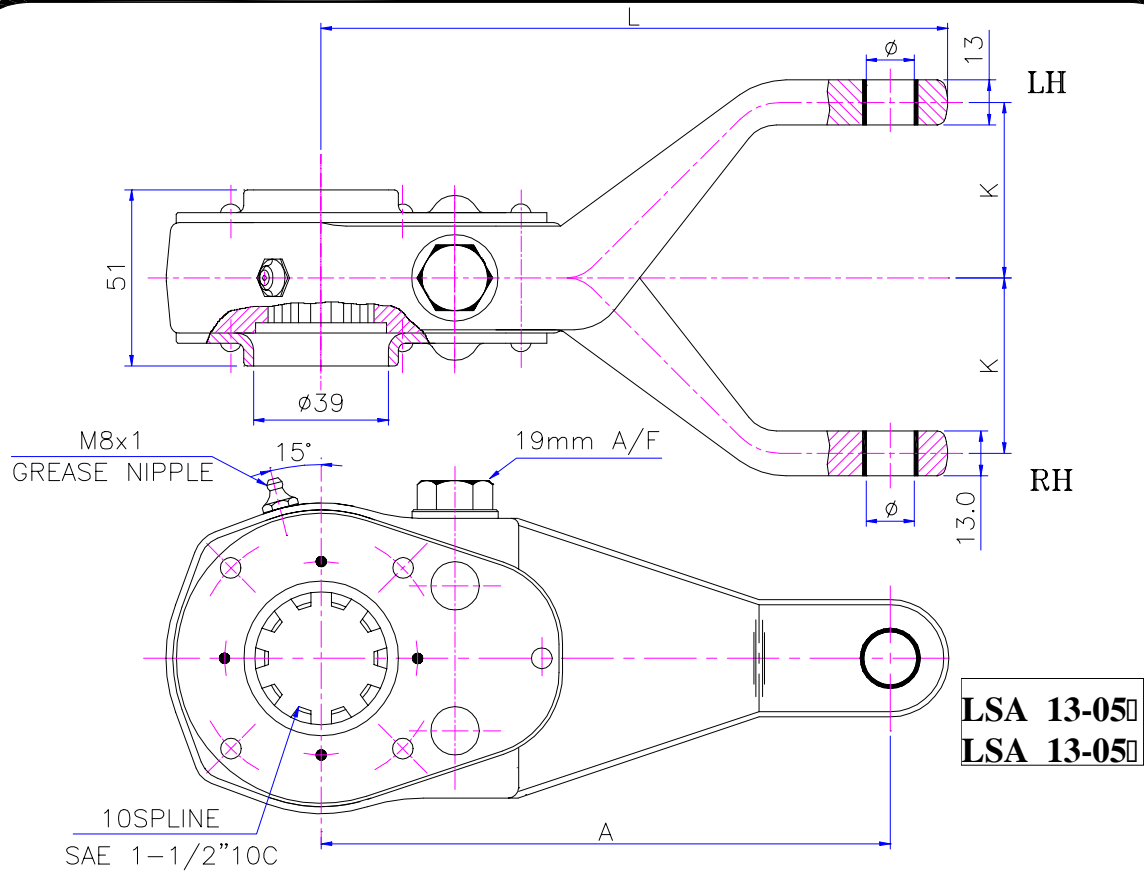
Front View Dimensions:

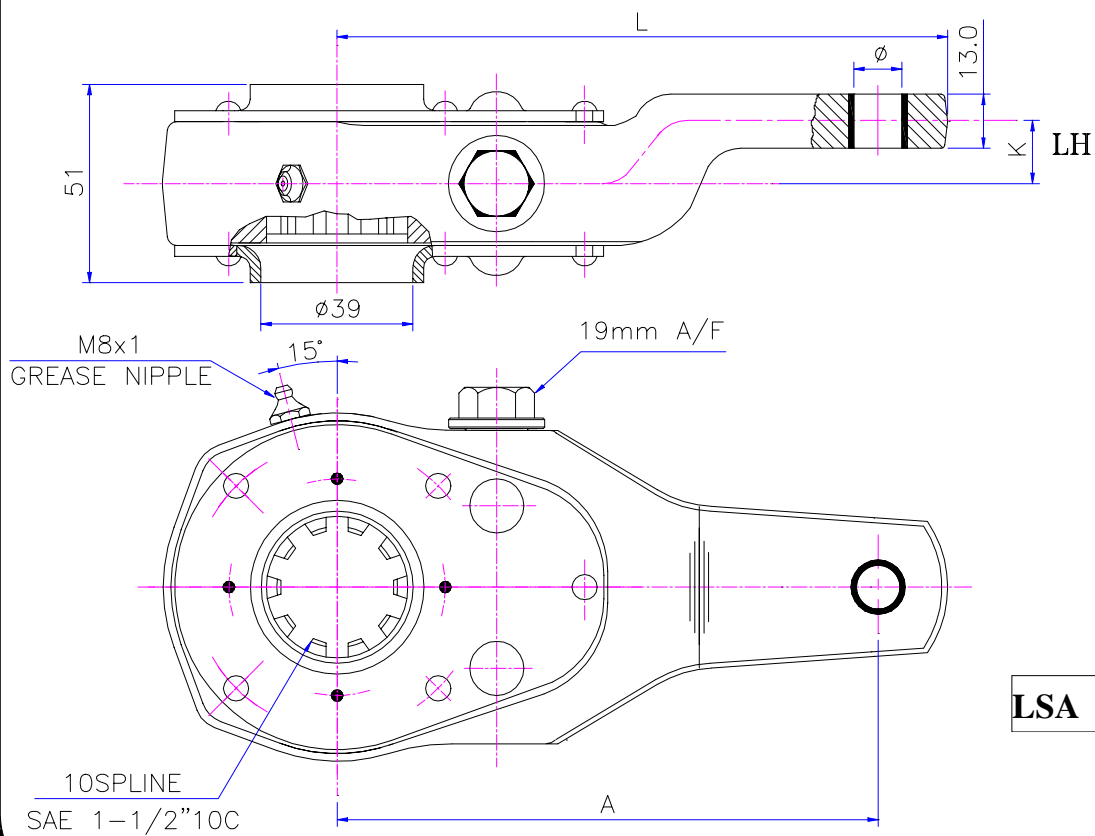
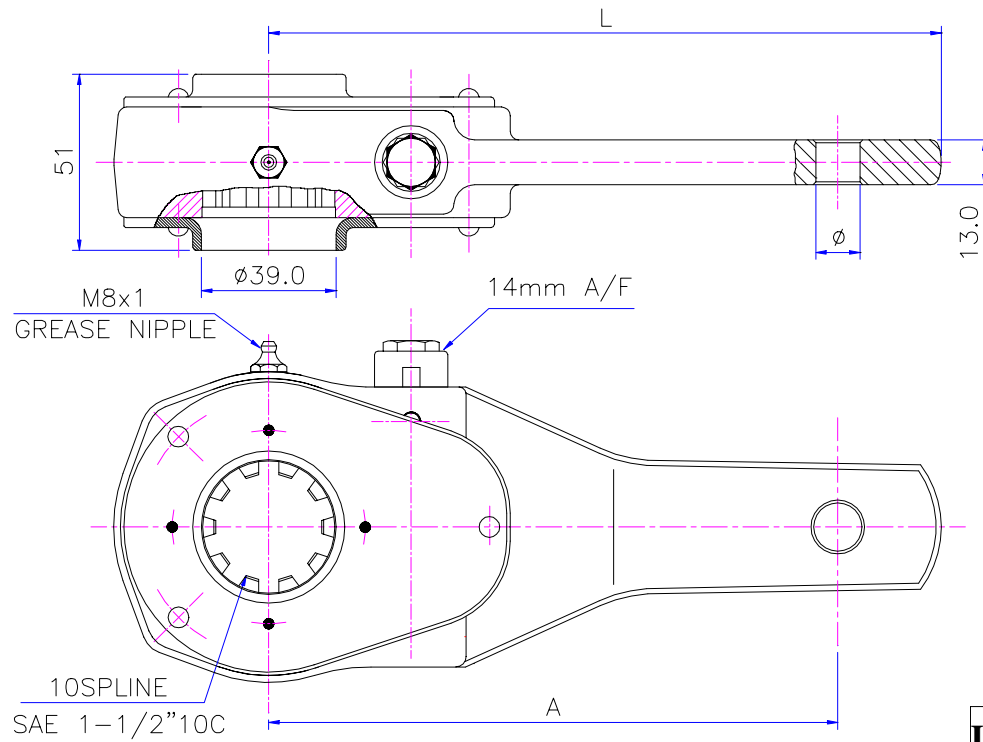
- Overall width: A
- Pin diameter: $\phi 39.0$
- Pin length: 19mm A/F
- Pin angle: 15°
- Pin diameter: ϕ
- Pin length: 13.0
- Pin thread: $M8 \times 1$
- Pin angle: 15°
- Pin diameter: $\phi 39.0$
- Pin length: 19mm A/F

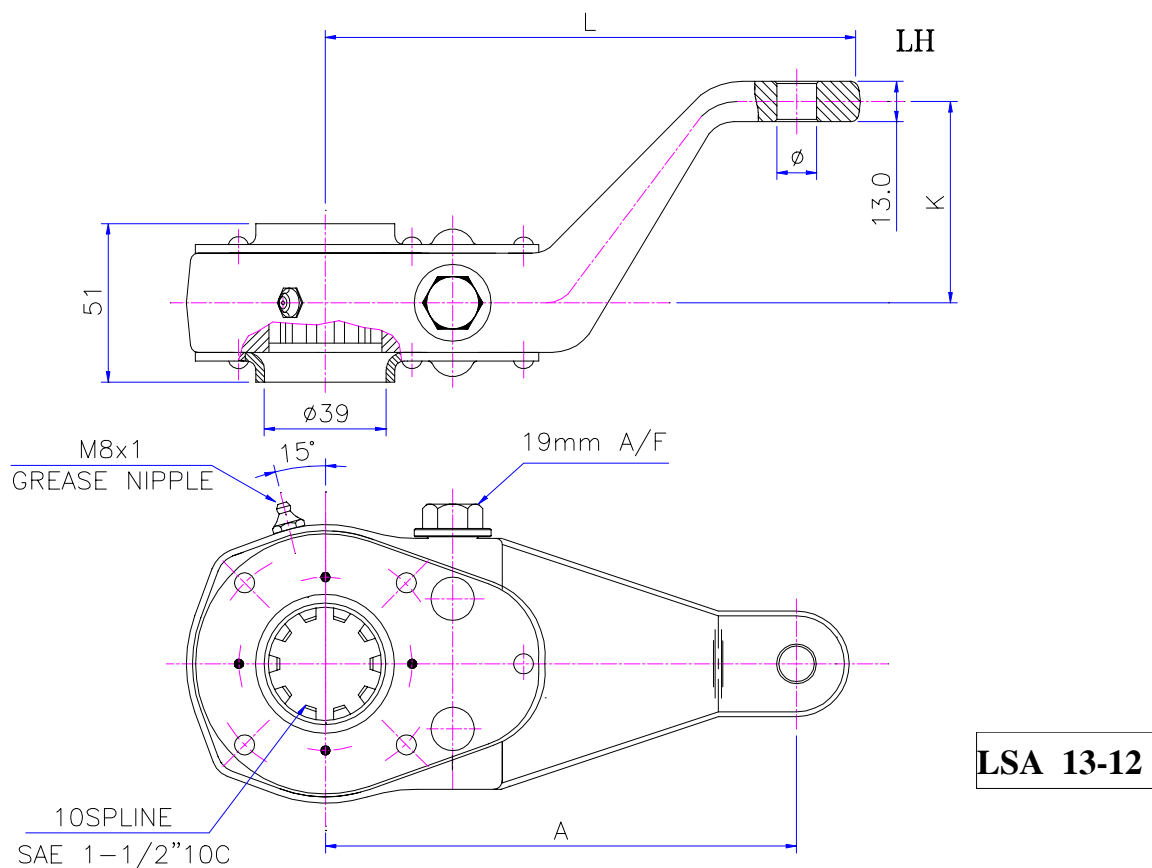
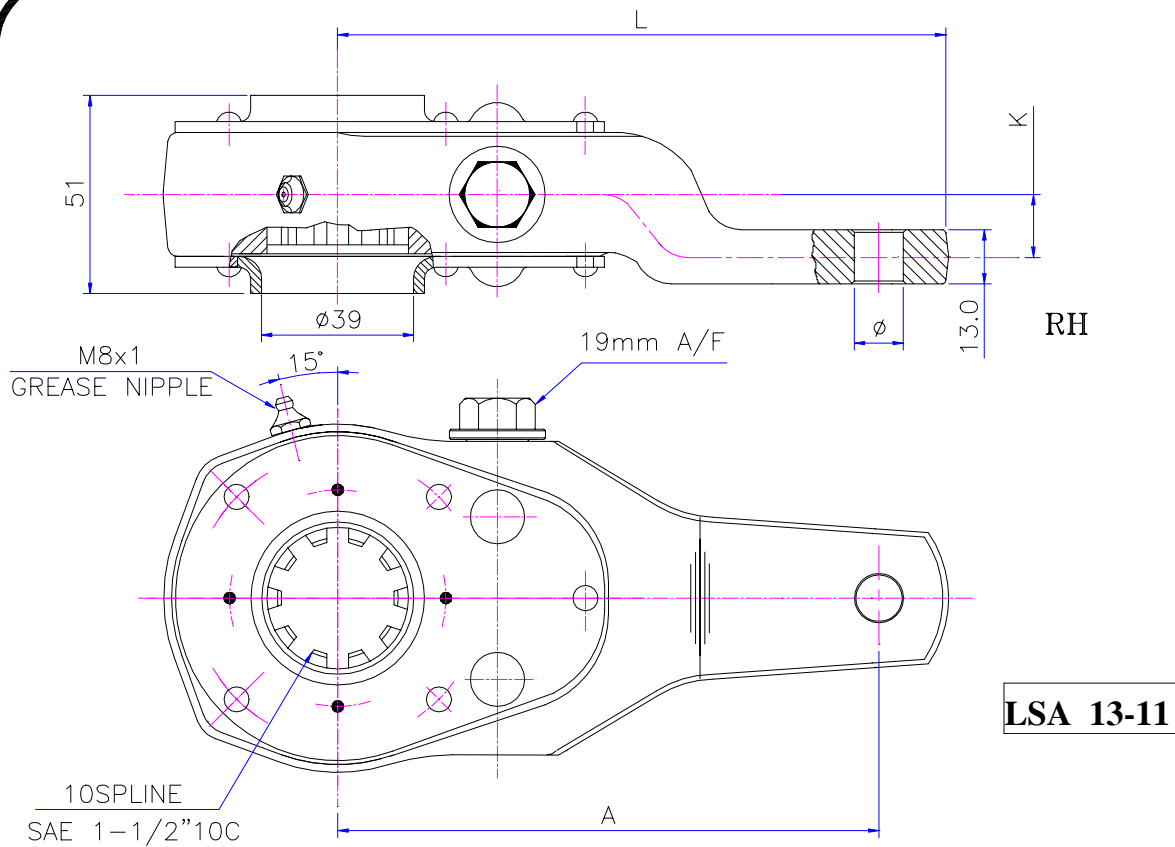
Labels:

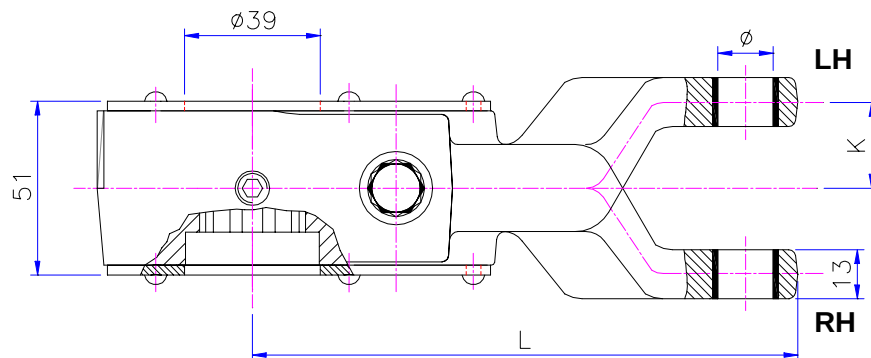
- GREASE NIPPLE
- 10SPLINE
- SAE 1-1/2"10C
- SCANIA
- ME





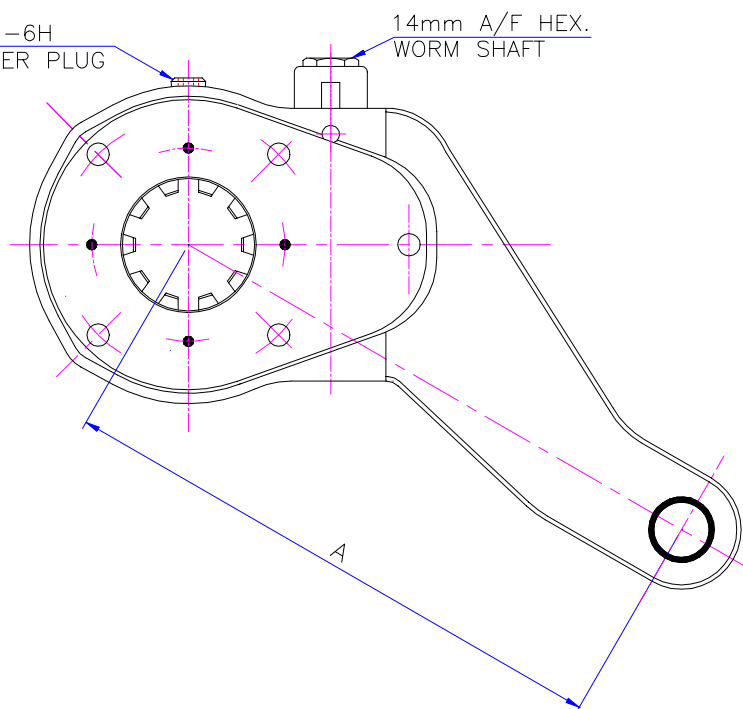




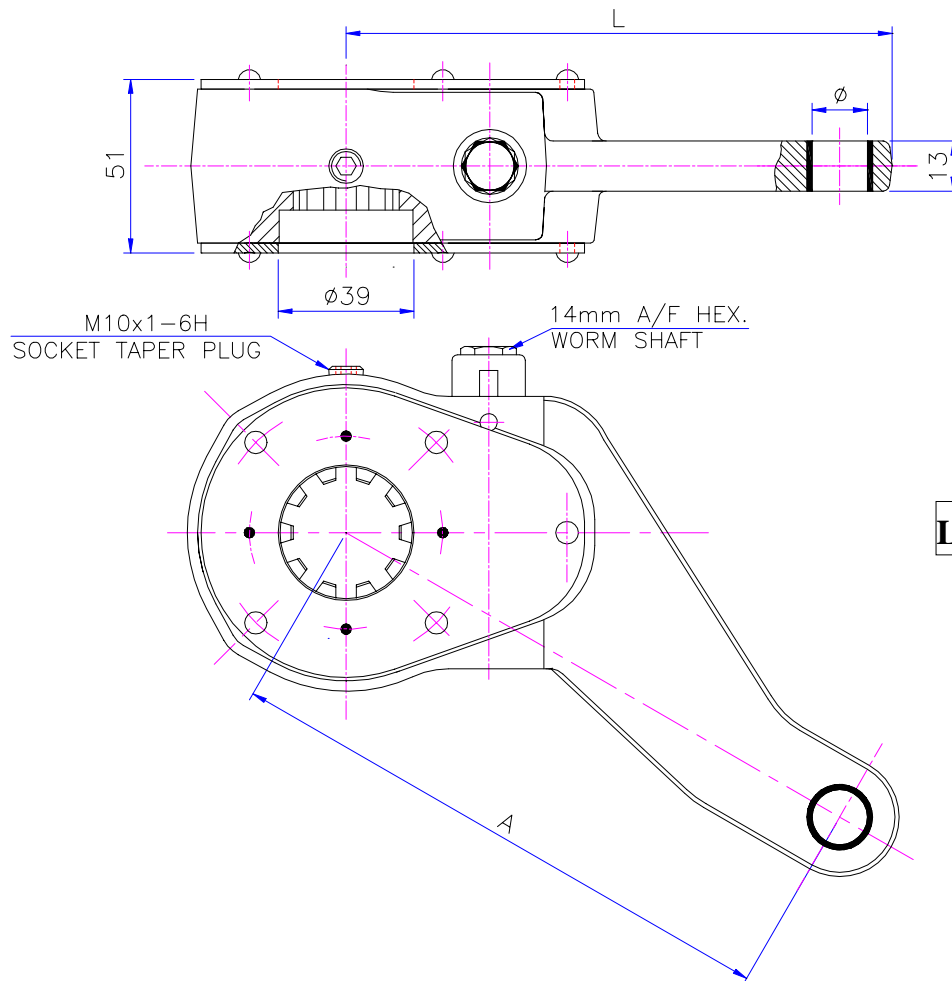


M10x1-6H
SOCKET TAPER PLUG

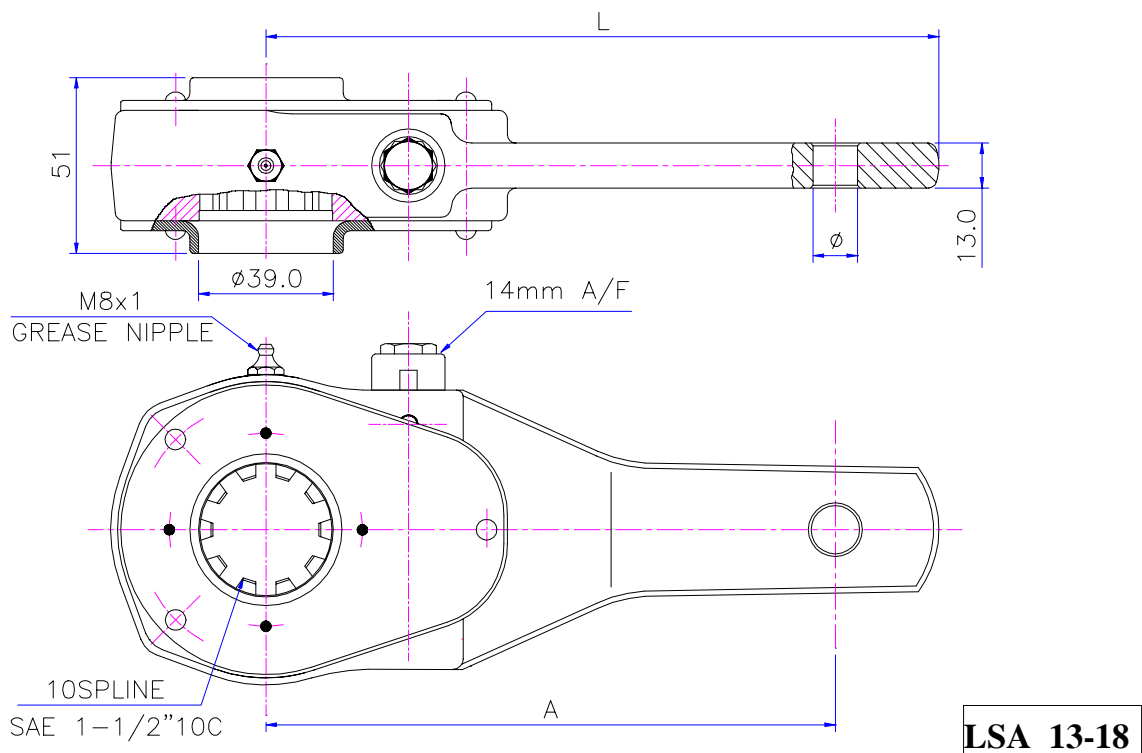
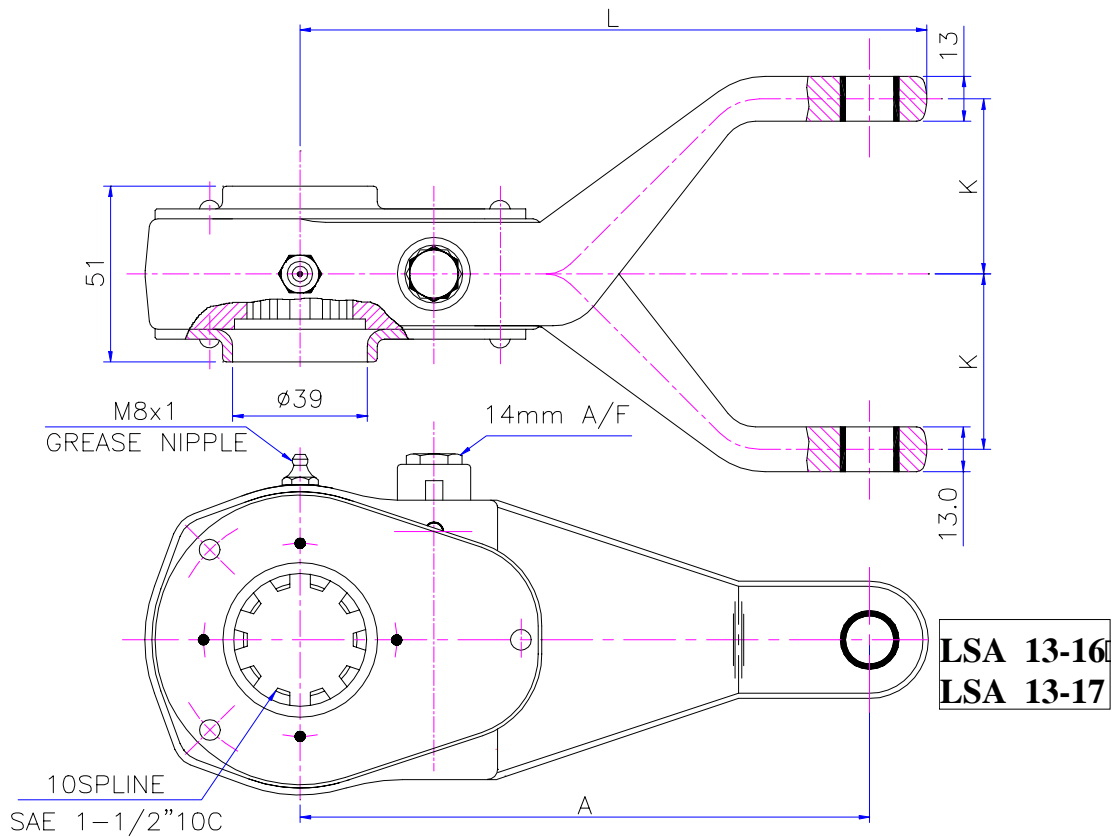
14mm A/F HEX.
WORM SHAFT



LSA 13-13
LSA 13-14



LSA 13-15





51

15°

M8x1
GREASE NIPPLE

19mm A/F

10SPLINE

SAE 1-1/2"10C

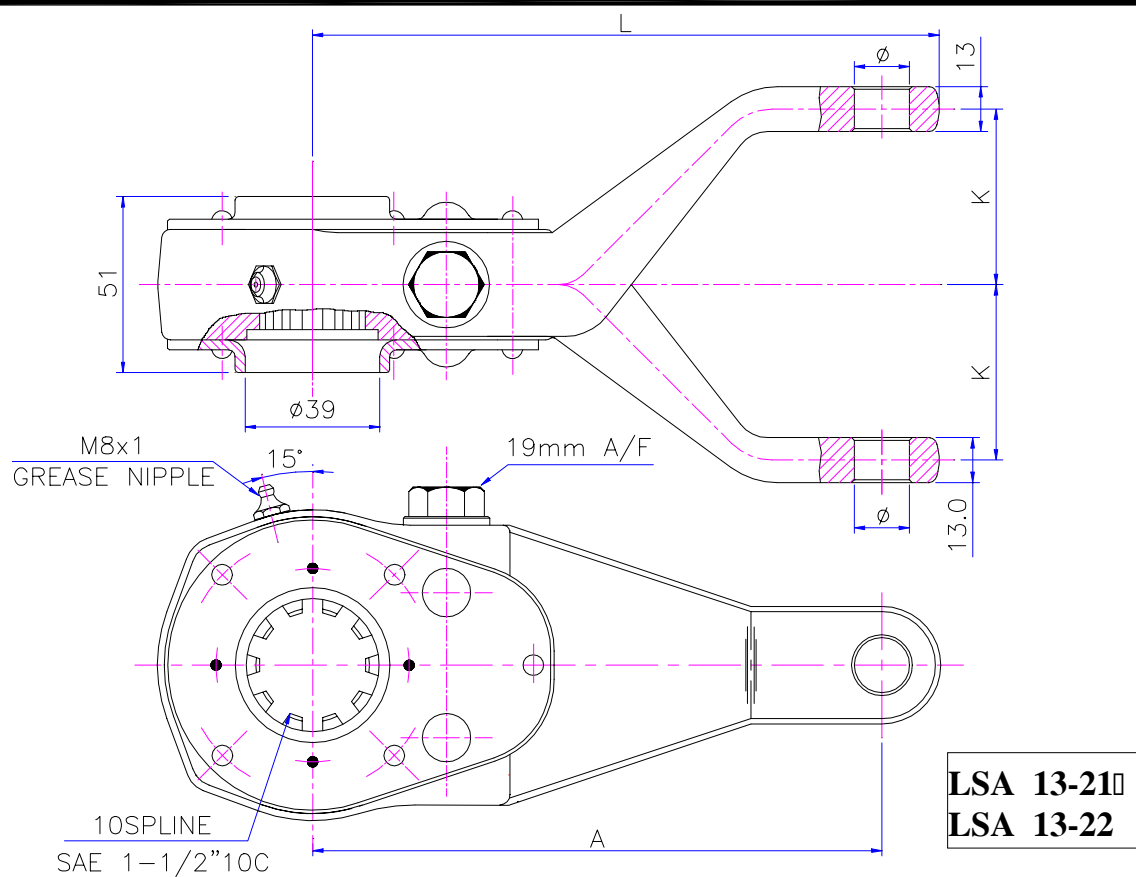
13

13.0

13-19

13-20

LSA 13-19
LSA 13-20

LSA 13-21
LSA 13-22



MEI PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET	LENGTH	TYPE
		A - Ø	B - Ø	C - Ø	D - Ø	E - Ø	F - Ø	G - Ø	K	L	
LSA 13-01	157.756	1152/15.9							-	170	Straight
LSA 13-02	218.684	165/15.9							-	185	Straight
LSA 13-03	276.517	165/16.0							50.8	182	RH
LSA 13-04	276.518	165/16.0							50.8	182	LH
LSA 13-05		165/14.0							50.8	182	RH
LSA 13-06		165/14.0							50.8	182	LH
LSA 13-07		165/14.0							50.8	182	RH
LSA 13-08		165/14.0							50.8	182	LH
LSA 13-09		165/15.9							-	185	Straight
LSA 13-10		130/12.7							15.9	158	RH
LSA 13-11		140/12.7							15.9	158	RH
LSA 13-12		152.4/12.7							65	172	LH
LSA 13-13	278736	165/16.02							25	159	RH
LSA 13-14	278735	165/16.02							25	159	LH
LSA 13-15	278734	165/16.02							-	159	Straight
LSA 13-16		165/14.0							50.8	182	RH
LSA 13-17		165/14.0							50.8	182	LH
LSA 13-18		165/14.0							-	185	Straight
LSA 13-19		165/14.0							65.0	183	RH
LSA 13-20		165/14.0							65.0	183	LH
LSA 13-21		165/16.0							50.8	182	RH
LSA 13-22		165/16.0							50.8	182	LH



Technical drawing of the LSA 14-01 component, showing front and side views with dimensions and labels.

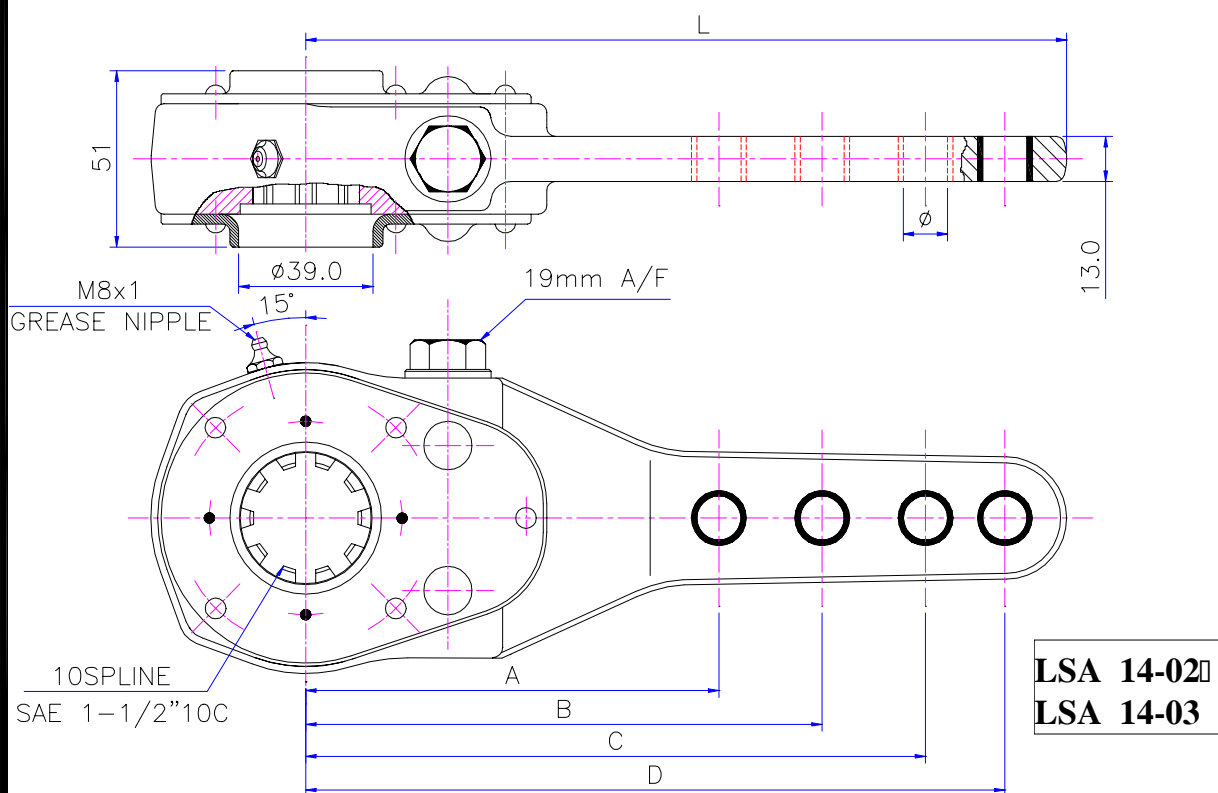
Front View (Top):

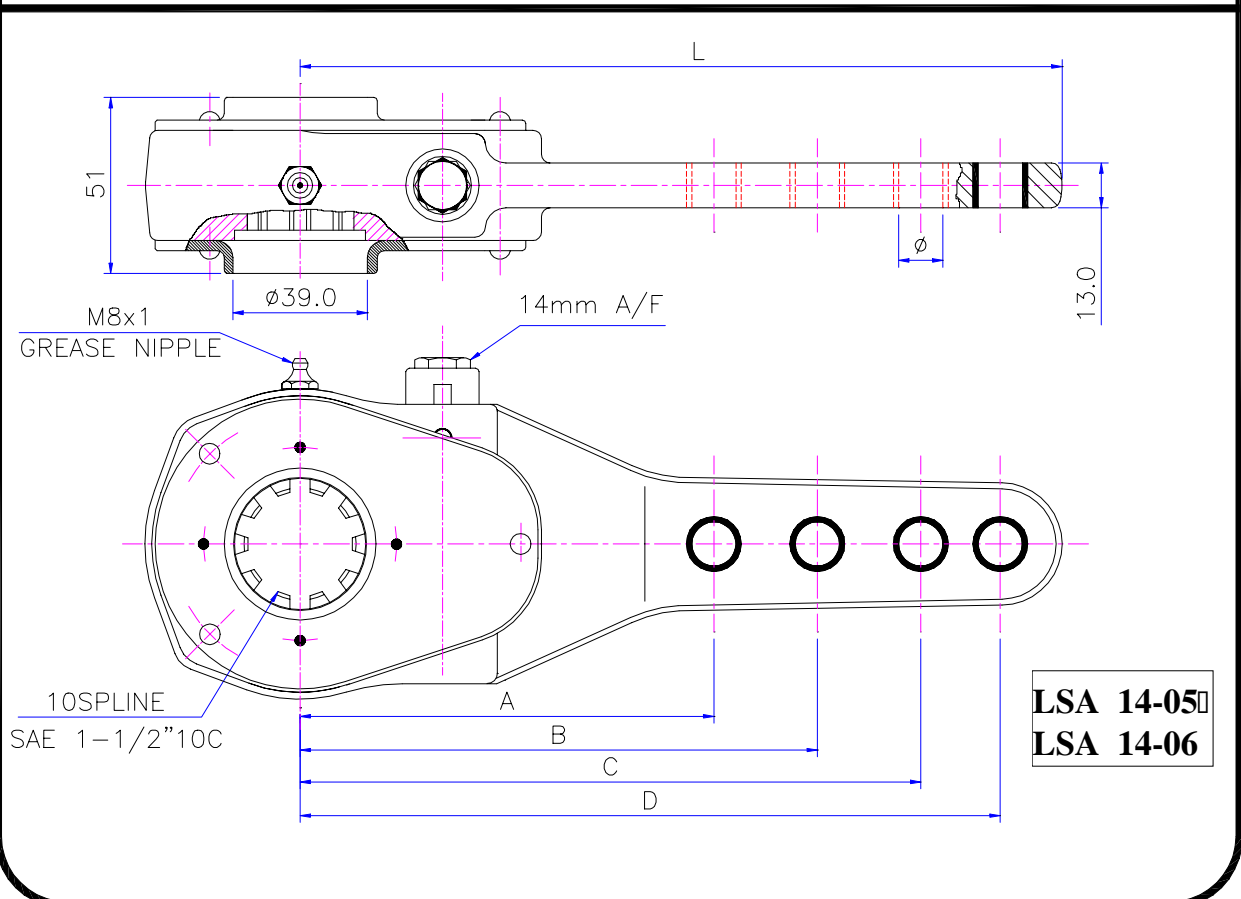
- Overall length: L
- Overall width: 51
- Shaft diameter: ϕ
- Shaft length: 13.0
- Grease nipple: M8x1
- Shaft diameter: $\phi 39.0$
- Angle: 15°
- Dimension: 19mm A/F

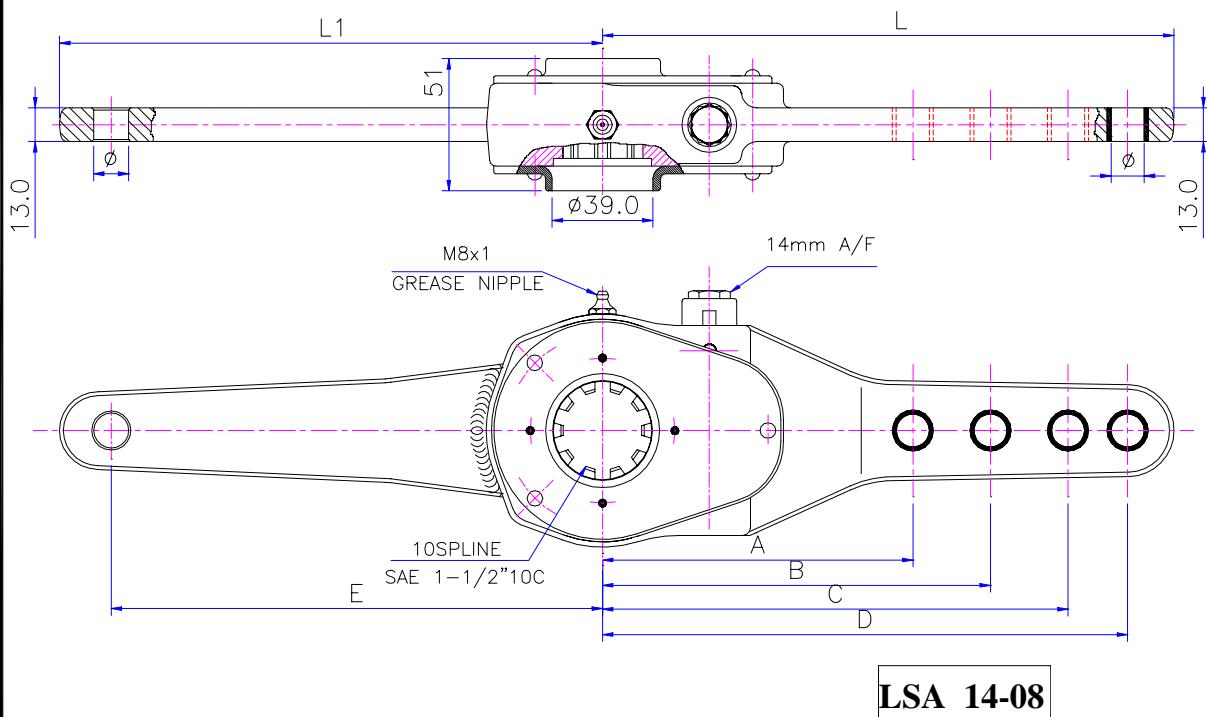
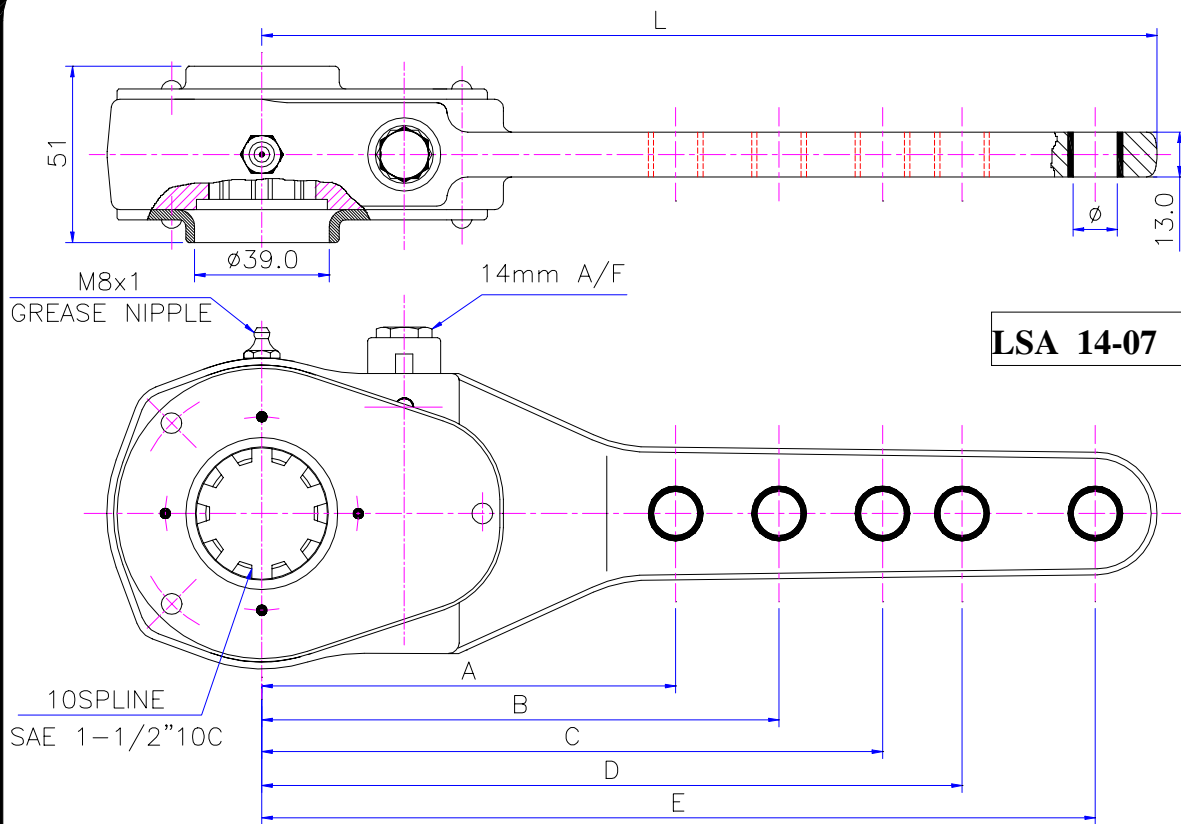
Side View (Bottom):

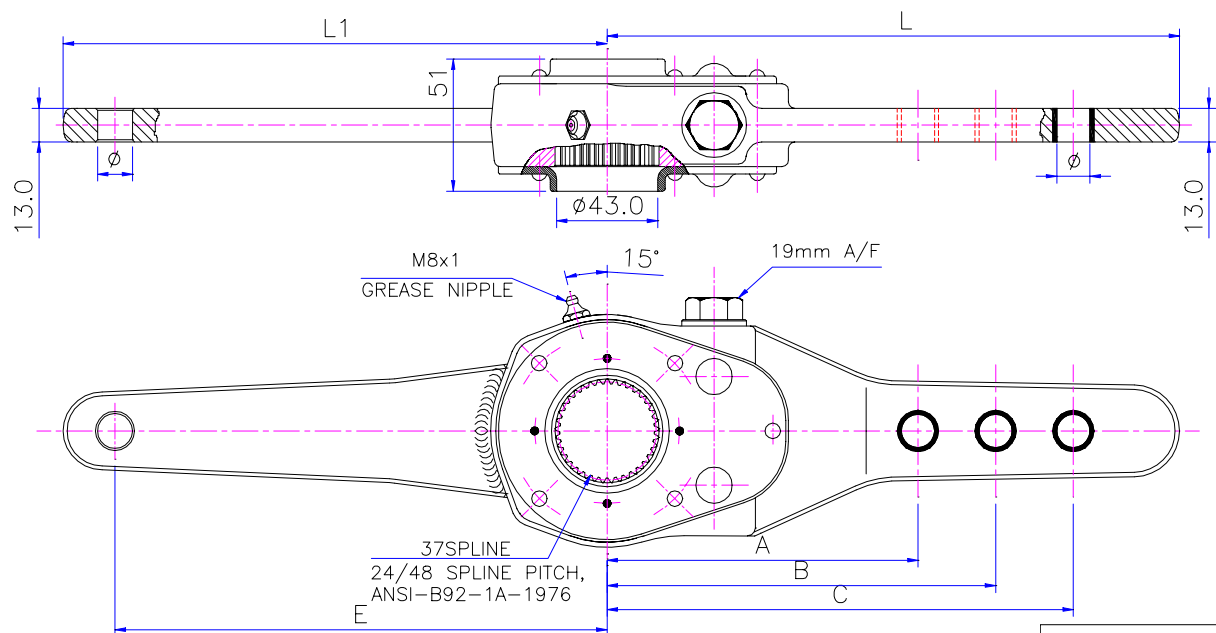
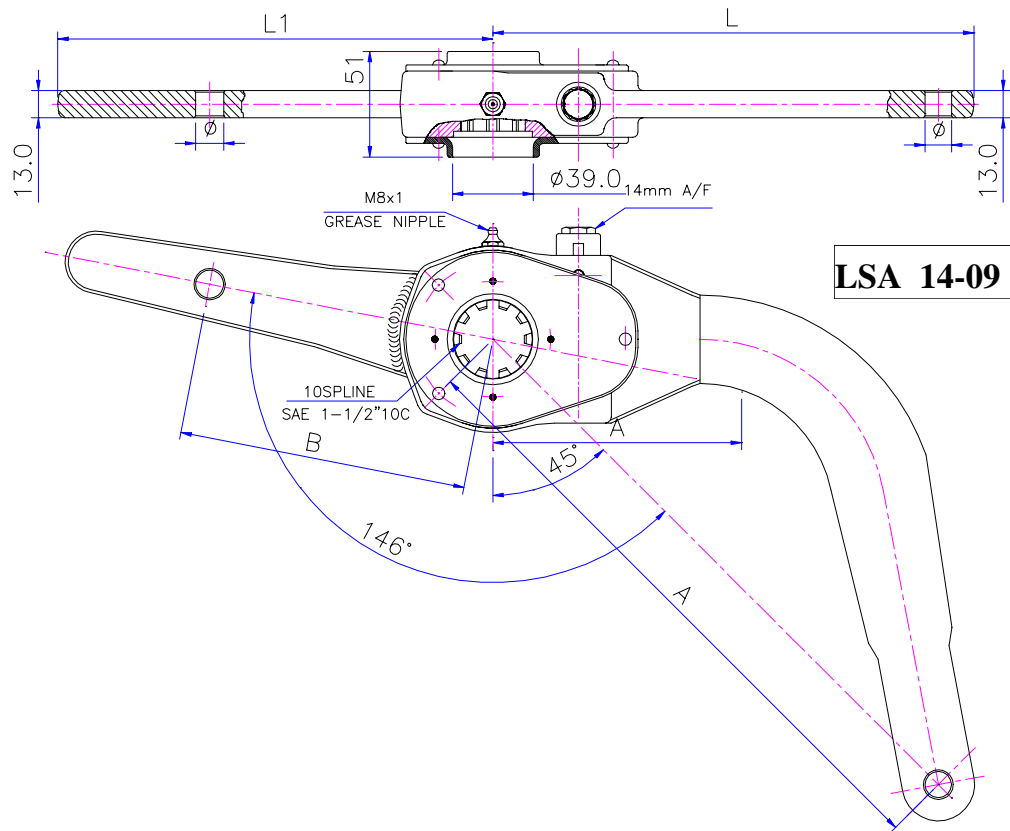
- 10SPLINE
- SAE 1-1/2"10C
- Dimensions: A, B, C, D

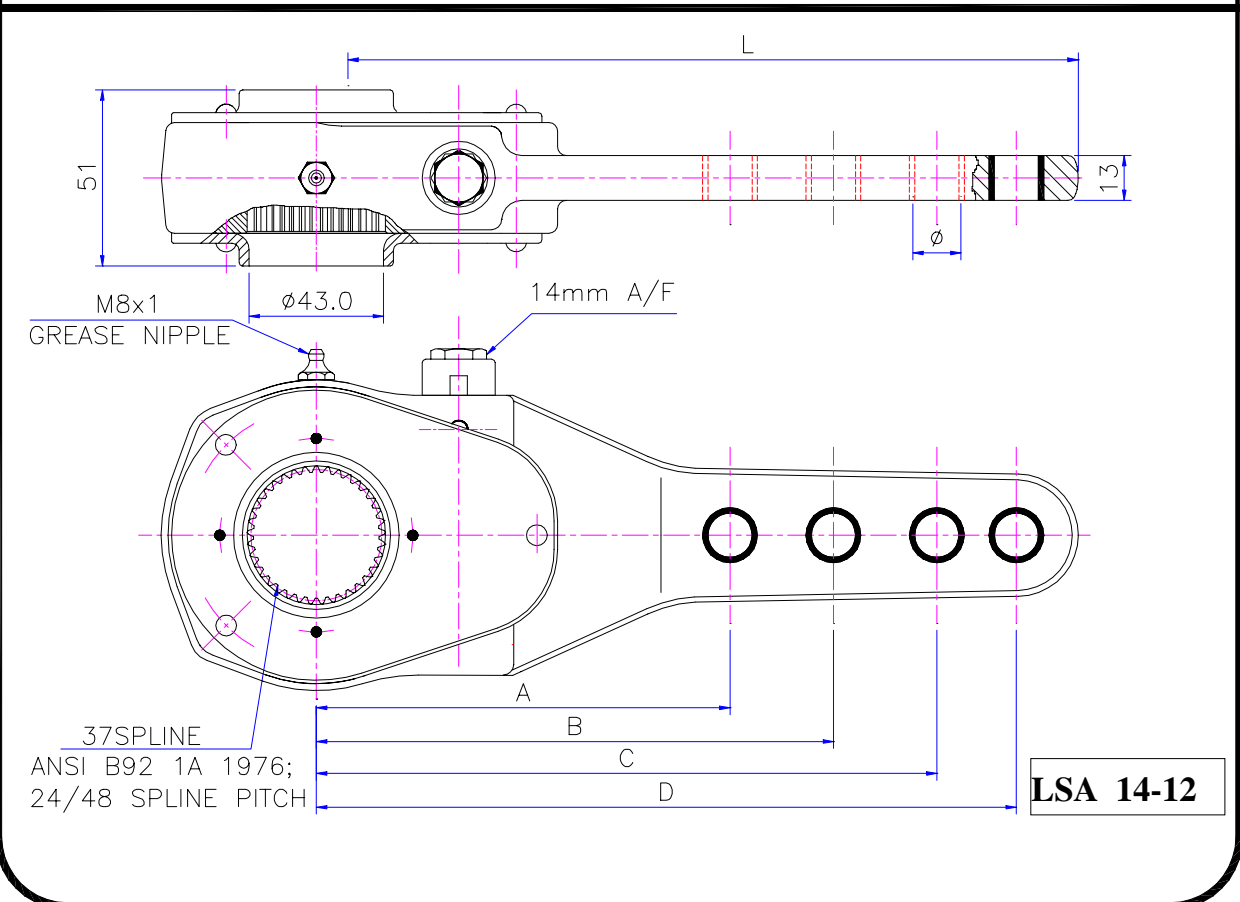
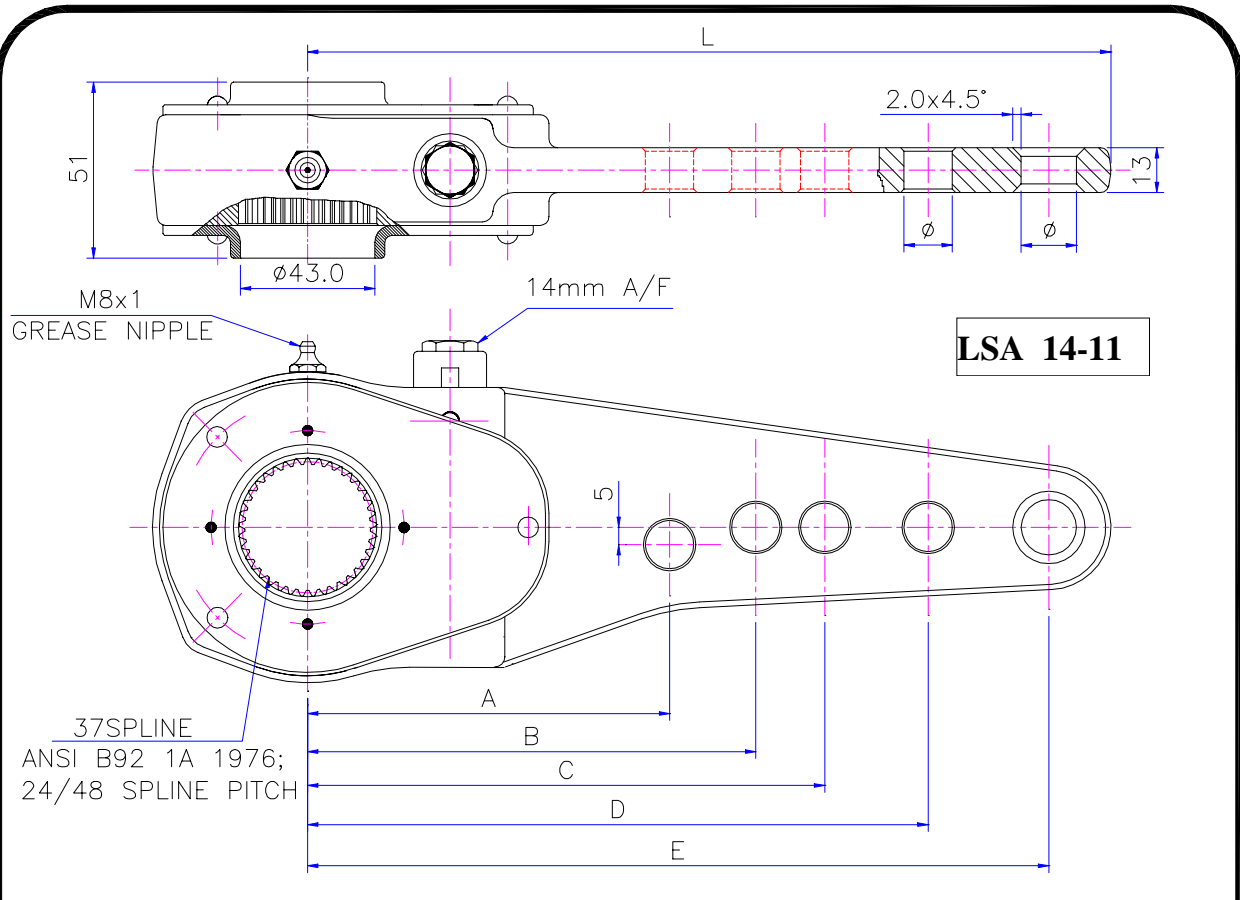
LSA 14-01

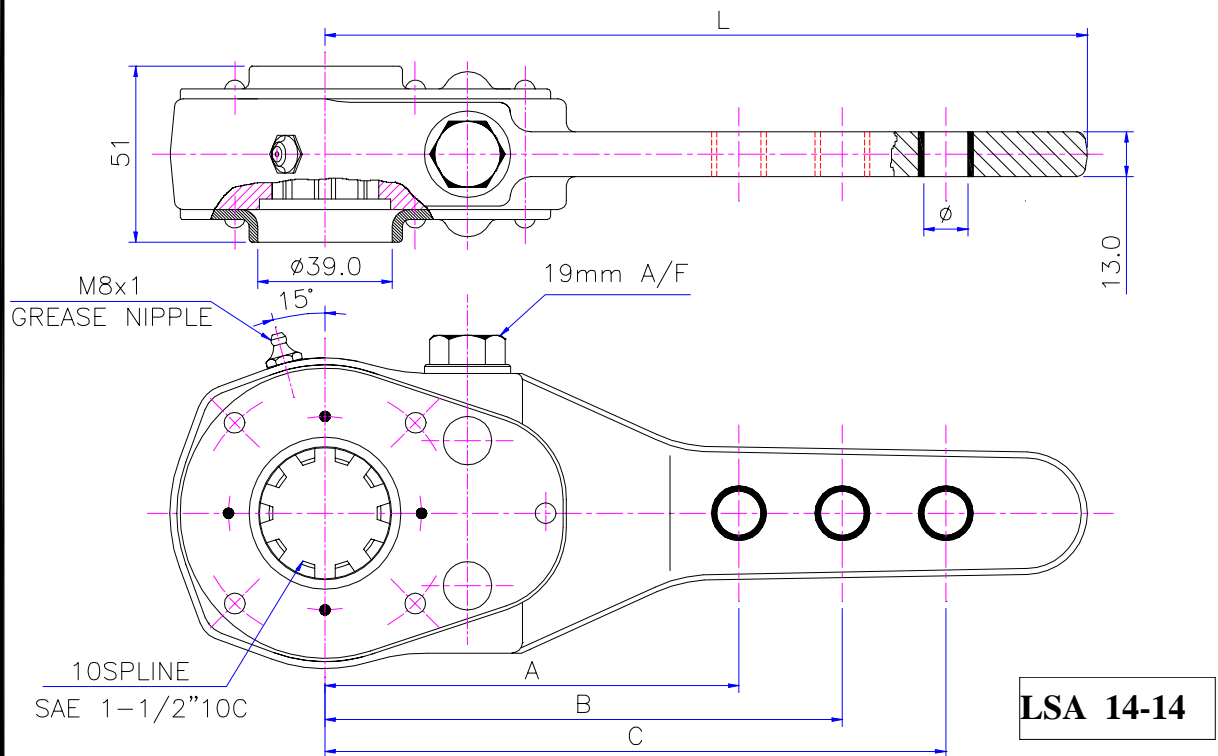
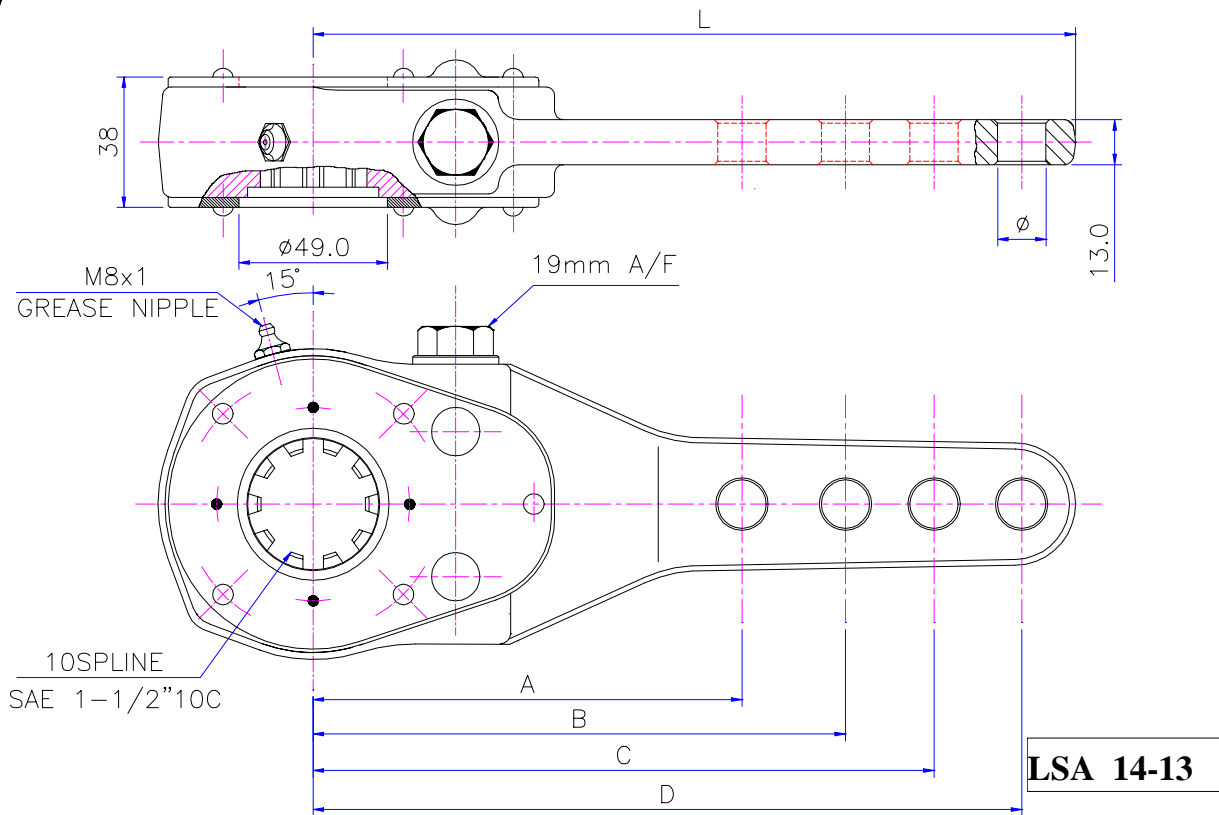


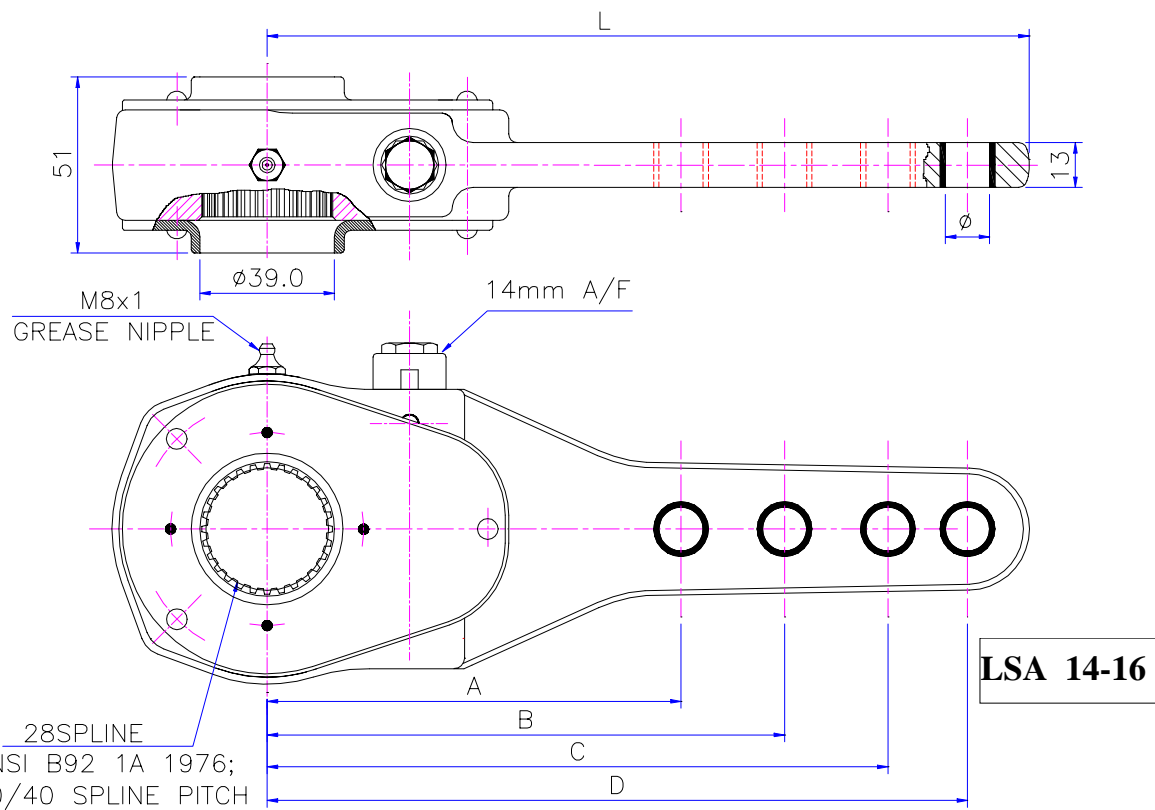
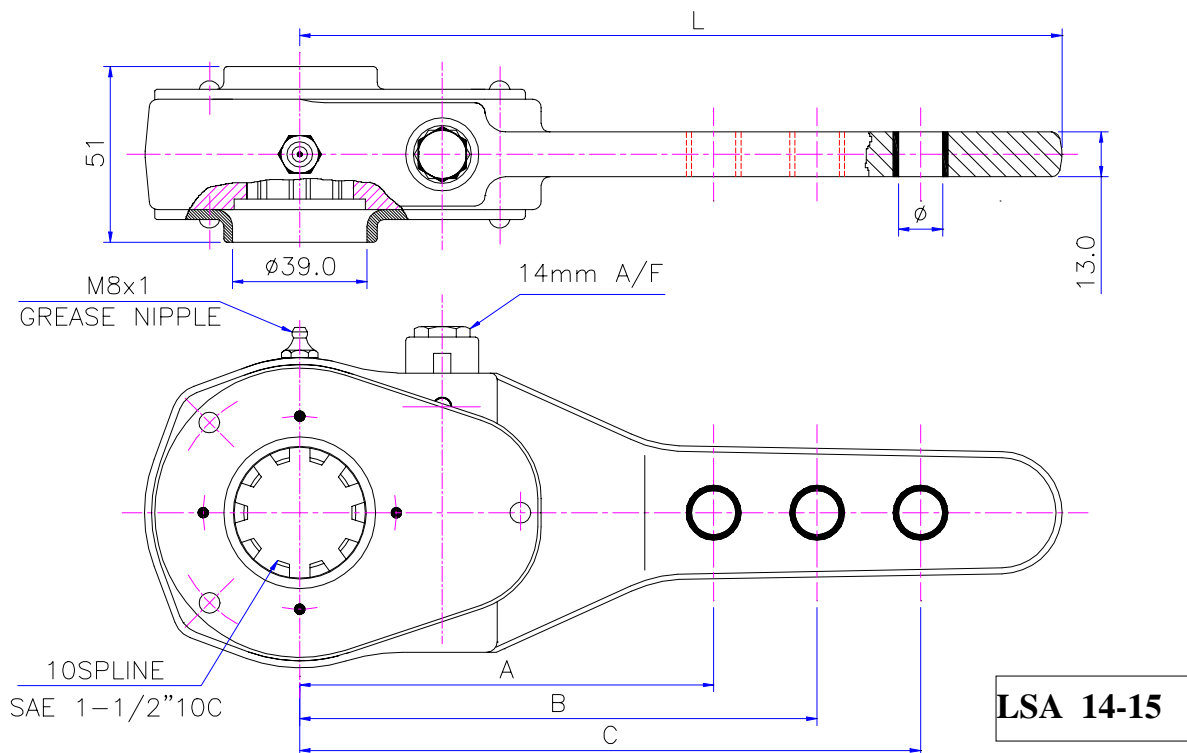
[illegible]

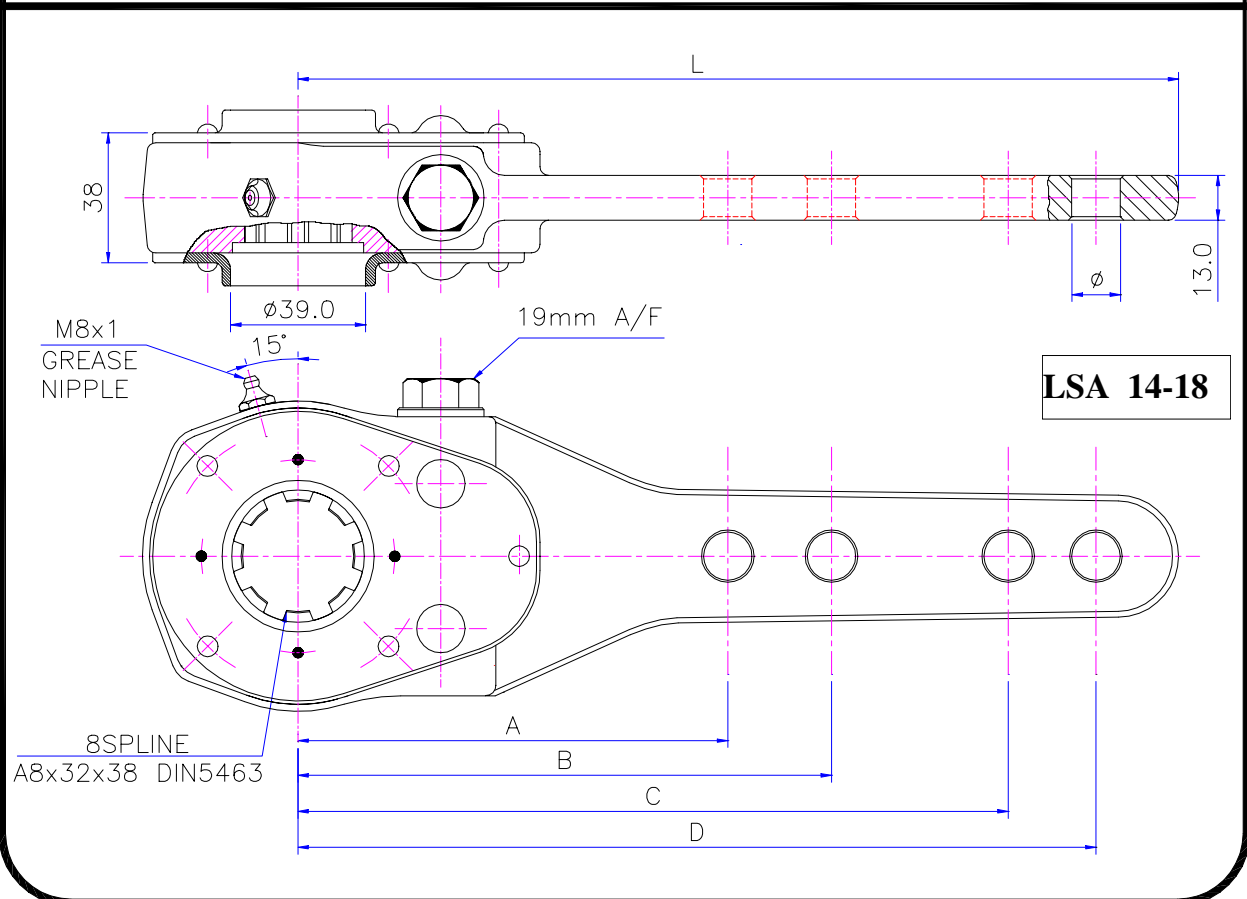
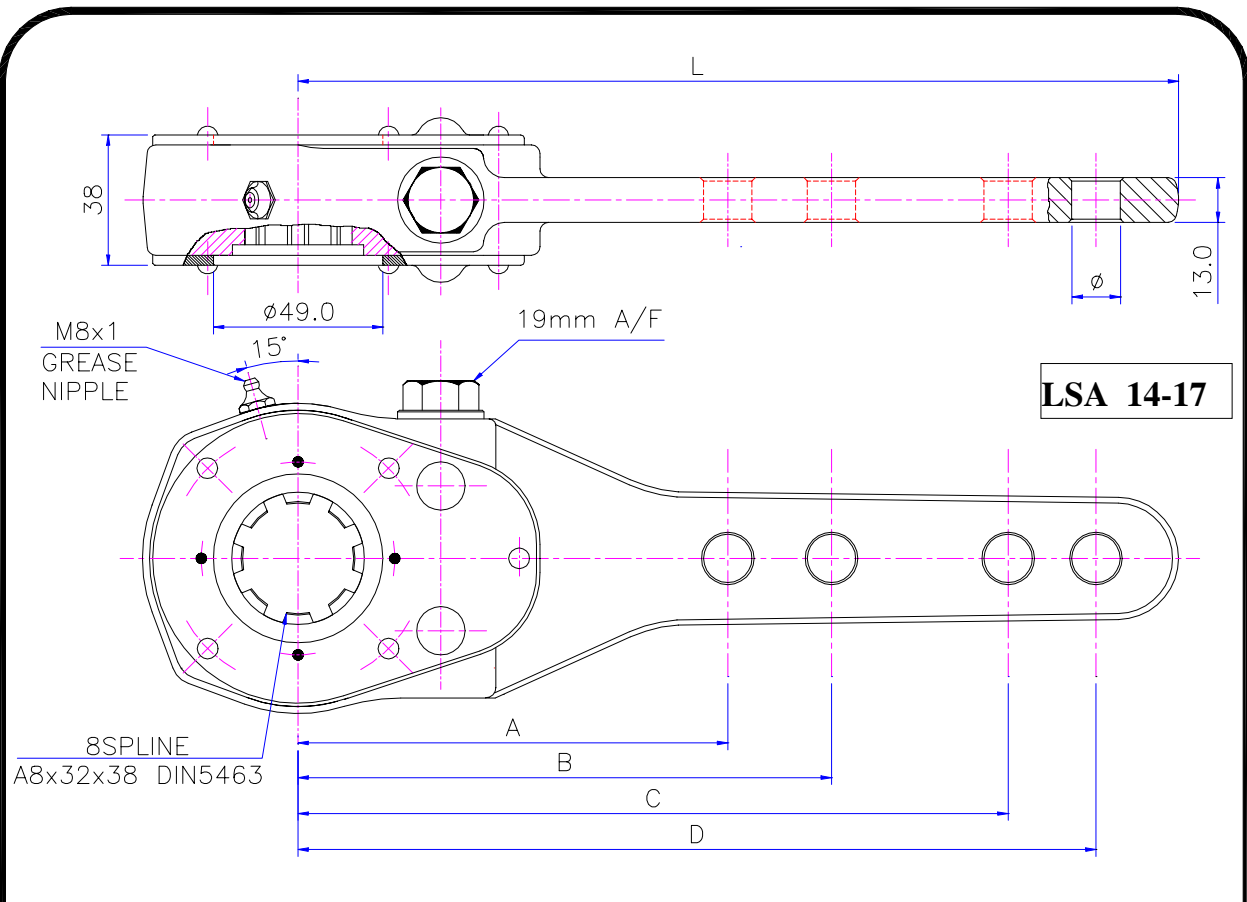






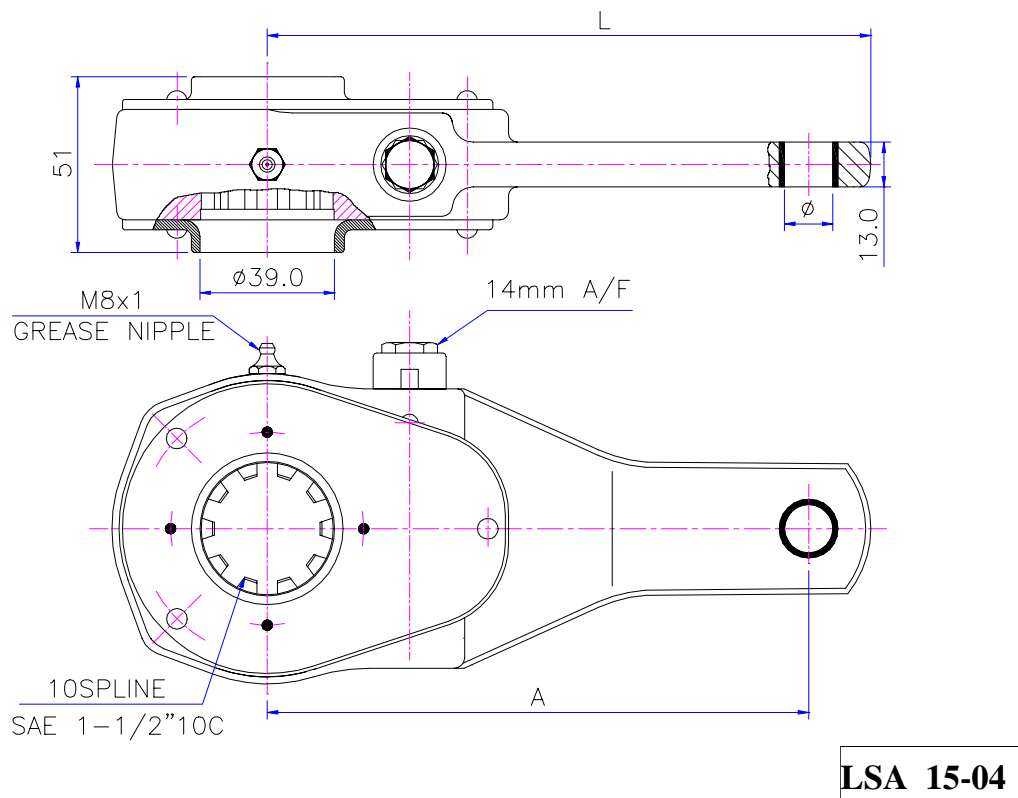
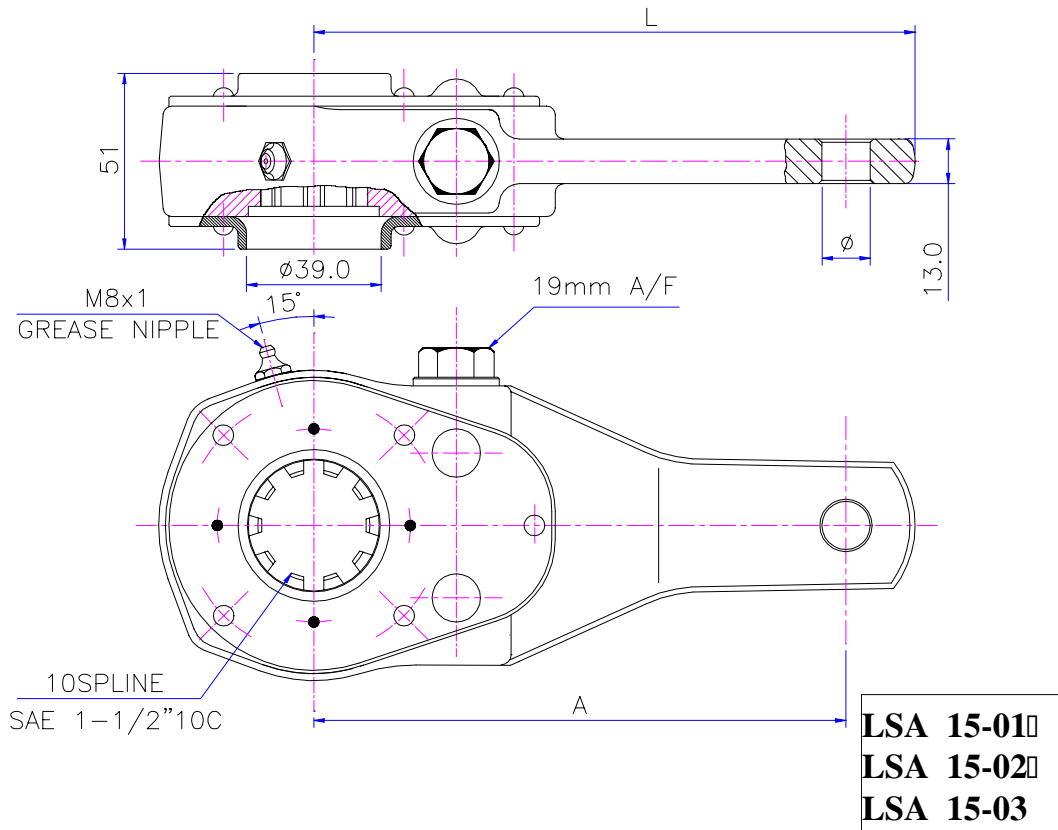








MEI PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET K	LENGTH L	TYPE
		A - Ø	B - Ø	C - Ø	D - Ø	E - Ø	F - Ø	G - Ø			
LSA 14-01	1670000J.13.180	127/14.0	152/14.0	178/14.0	203/14.0				218	-	Straight
LSA 14-02		127/14.0	152/14.0	178/14.0	203/14.0				218	-	Straight
LSA 14-03		127/12.7	152/12.7	178/12.7	203/12.7				218	-	Straight
MEI 14-04		127/12.7	152/12.7	178/12.7					195	-	Straight
LSA 14-05		127/12.7	152/12.7	178/12.7	203/12.7				218	-	Straight
LSA 14-06		127/14.0	152/14.0	178/14.0	203/14.0				218	-	Straight
LSA 14-07		127/12.7	152/12.7	178/12.7	203/12.7	254/12.7			272	-	Straight
LSA 14-08		127/12.7	152/12.7	178/12.7	203/12.7	190.5/13.5			218	210	Straight
LSA 14-09		304/12.7	127/12.7						234	186	Straight
LSA 14-10		105/14.0	130/14.0	150/14.0	215/16.0				218	230	Straight
LSA 14-11		105/14.0	130/14.0	150/14.0	180/14.0	215/16.0			233	-	Straight
LSA 14-12		127/12.7	152/12.7	178/12.7	203/12.7				218	-	Straight
LSA 14-13		127/14.0	152/14.0	178/14.0	203/14.0				-	218	Straight
LSA 14-14		127/12.7	152/12.7	178/12.7					-	218	Straight
LSA 14-15		127/12.7	152/12.7	178/12.7					-	218	Straight
LSA 14-16		127/12.7	152/12.7	178/12.7	203/12.7				-	218	Straight
LSA 14-17		124/14.0	154/14.0	210/14.0	240/14.0				-	272	Straight
LSA 14-18		124/14.0	154/14.0	210/14.0	240/14.0				-	272	Straight





Technical drawing of the LSA 1000 hydraulic cylinder, showing side and front views with dimensions and labels.

Side View Dimensions and Labels:

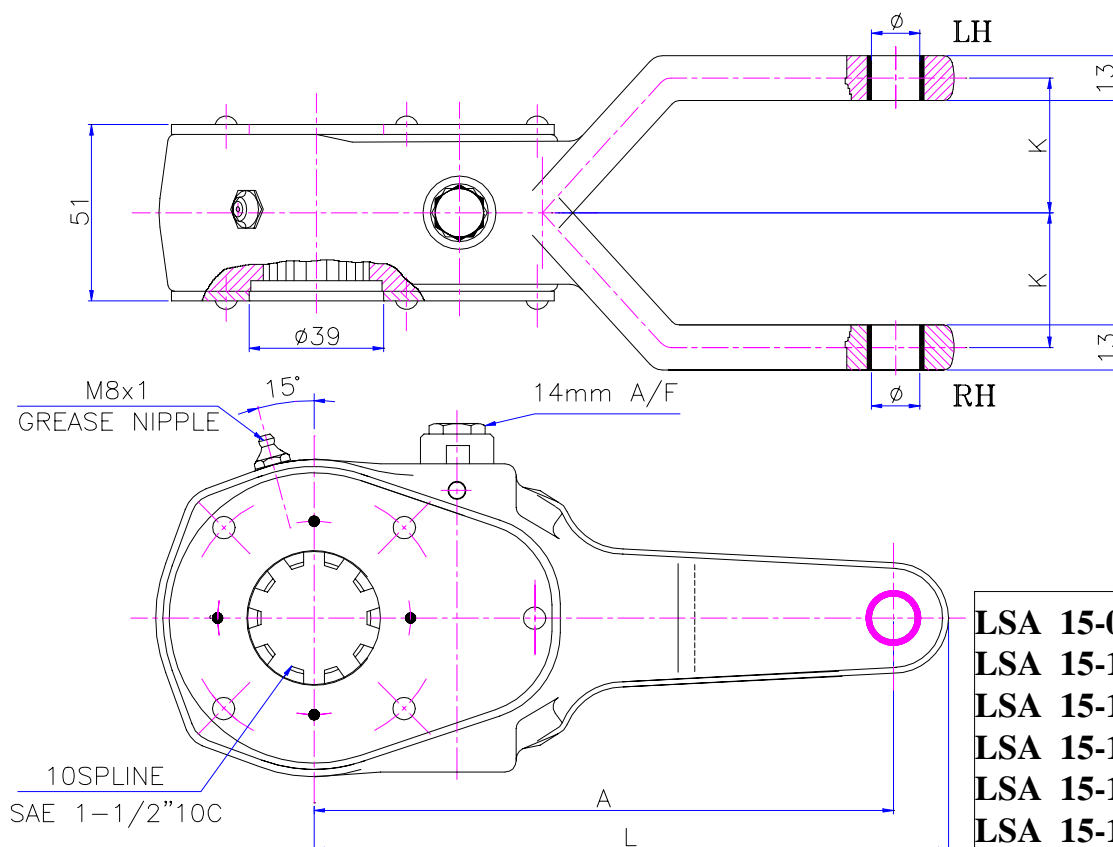
- L:** Total length of the cylinder.
- 51:** Height of the main body.
- ø39:** Diameter of the main body.
- M8x1 GREASE NIPPLE:** Grease nipple specification.
- 15°:** Angle of the grease nipple.
- 14mm A/F:** Air filter specification.
- LH:** Left Hand (top rod).
- RH:** Right Hand (bottom rod).
- ø:** Rod diameter.
- 13:** Rod diameter (indicated twice).
- K:** Stroke length (indicated twice).

Front View Dimensions and Labels:

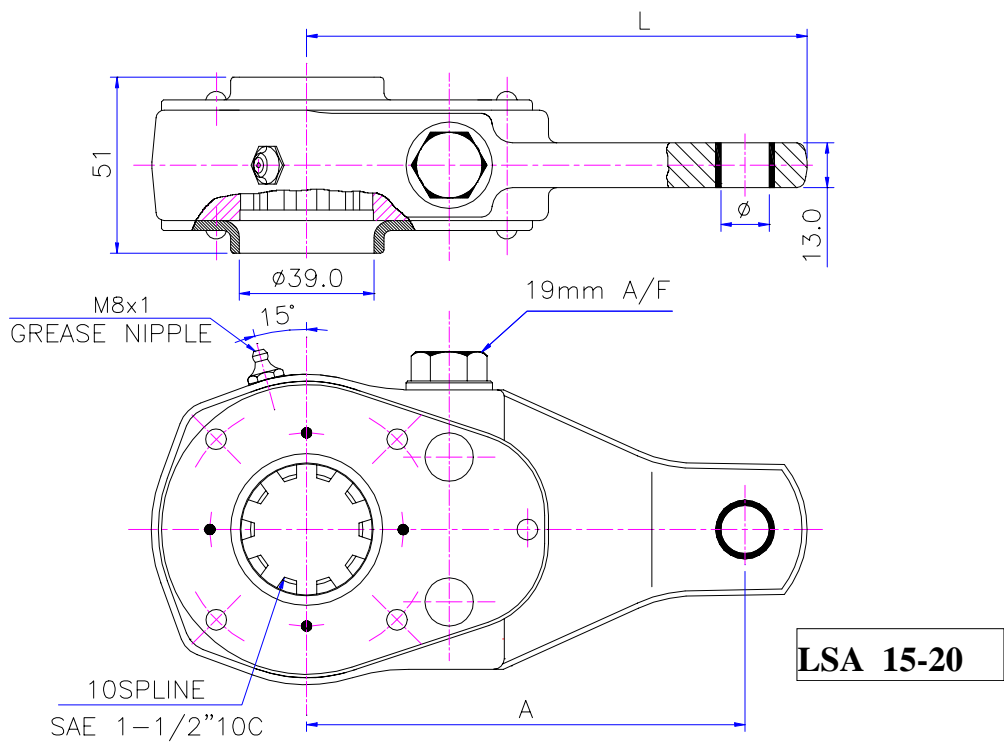
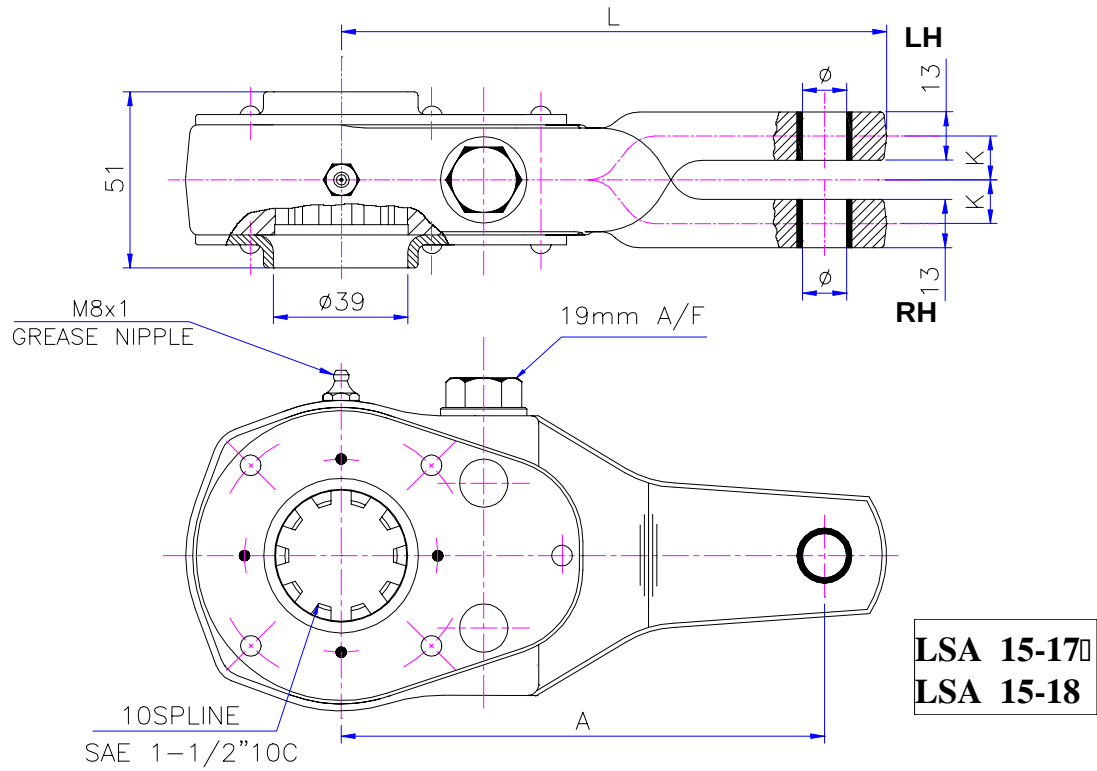
- 10SPLINE:** Spline specification.
- SAE 1-1/2"10C:** SAE fitting specification.
- A:** Mounting bracket length.

LSA 1000

LSA 15-05



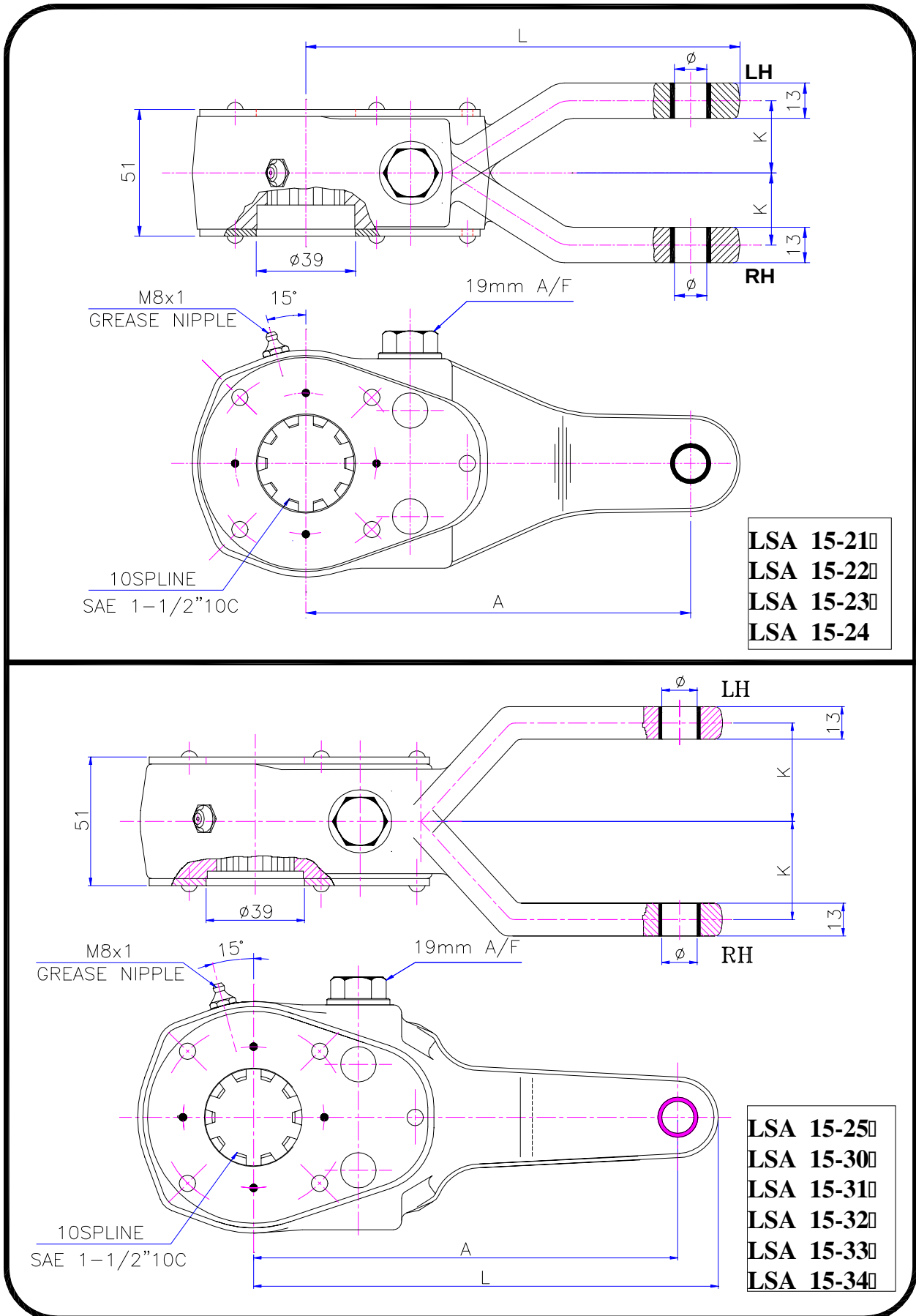
LSA 15-09
LSA 15-10
LSA 15-11
LSA 15-12
LSA 15-13
LSA 15-14

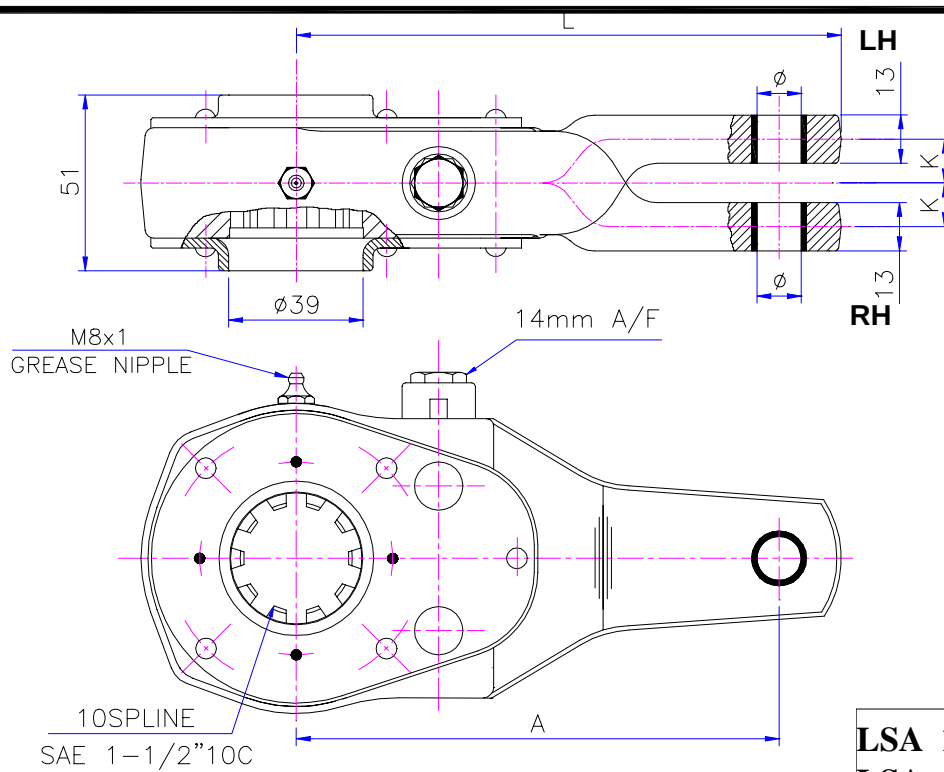
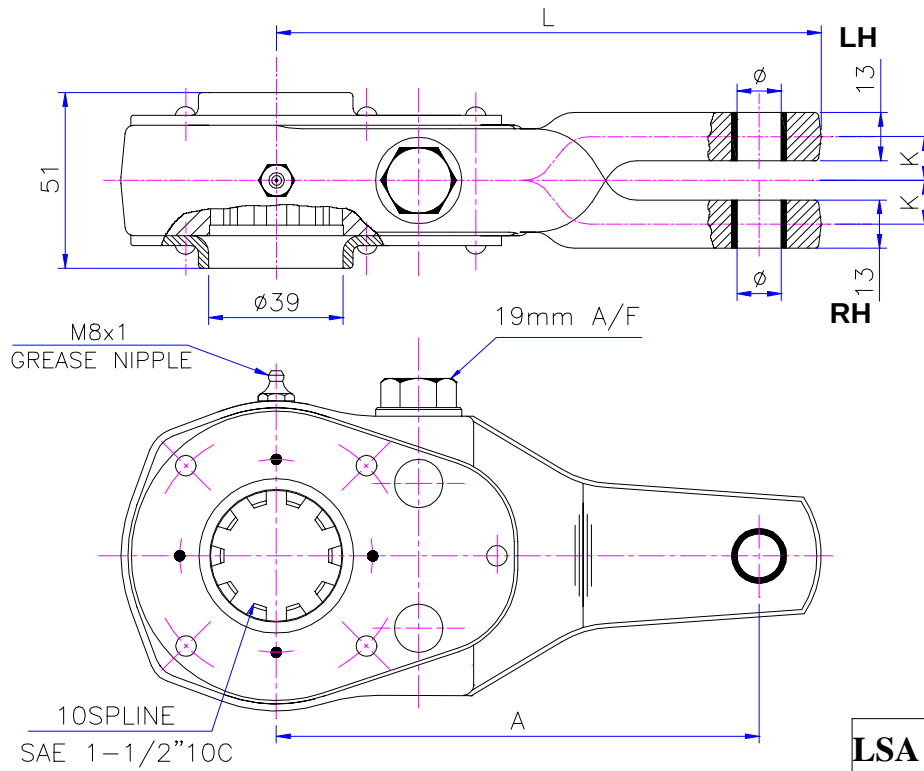


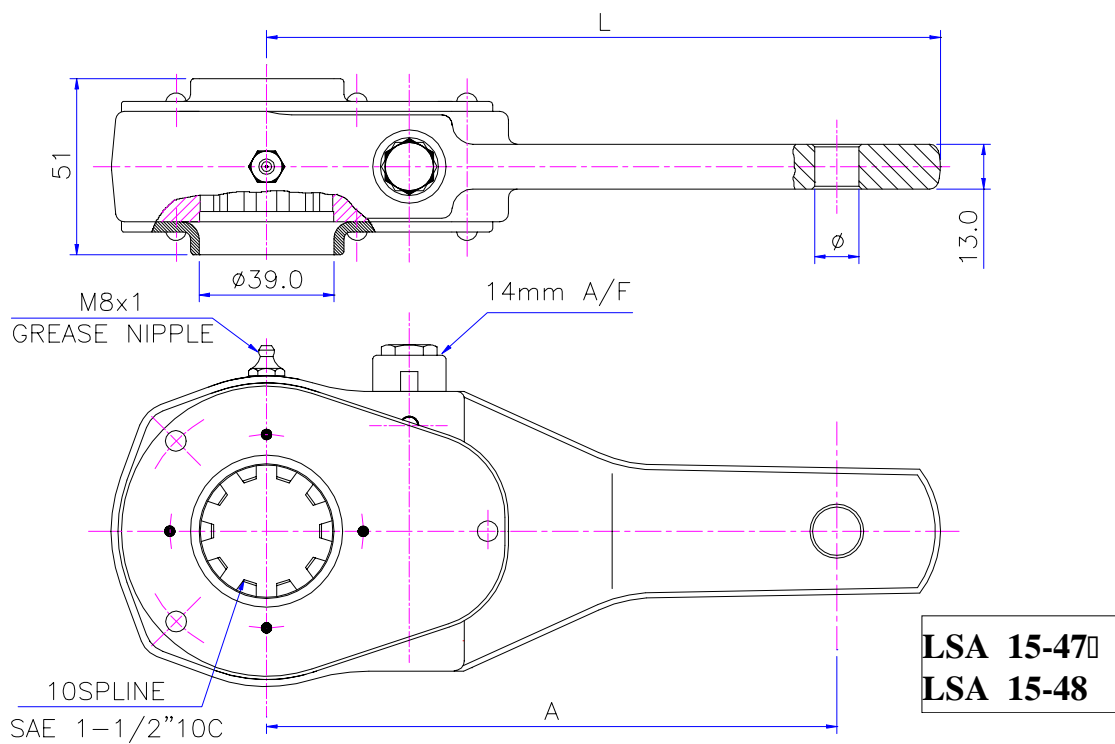


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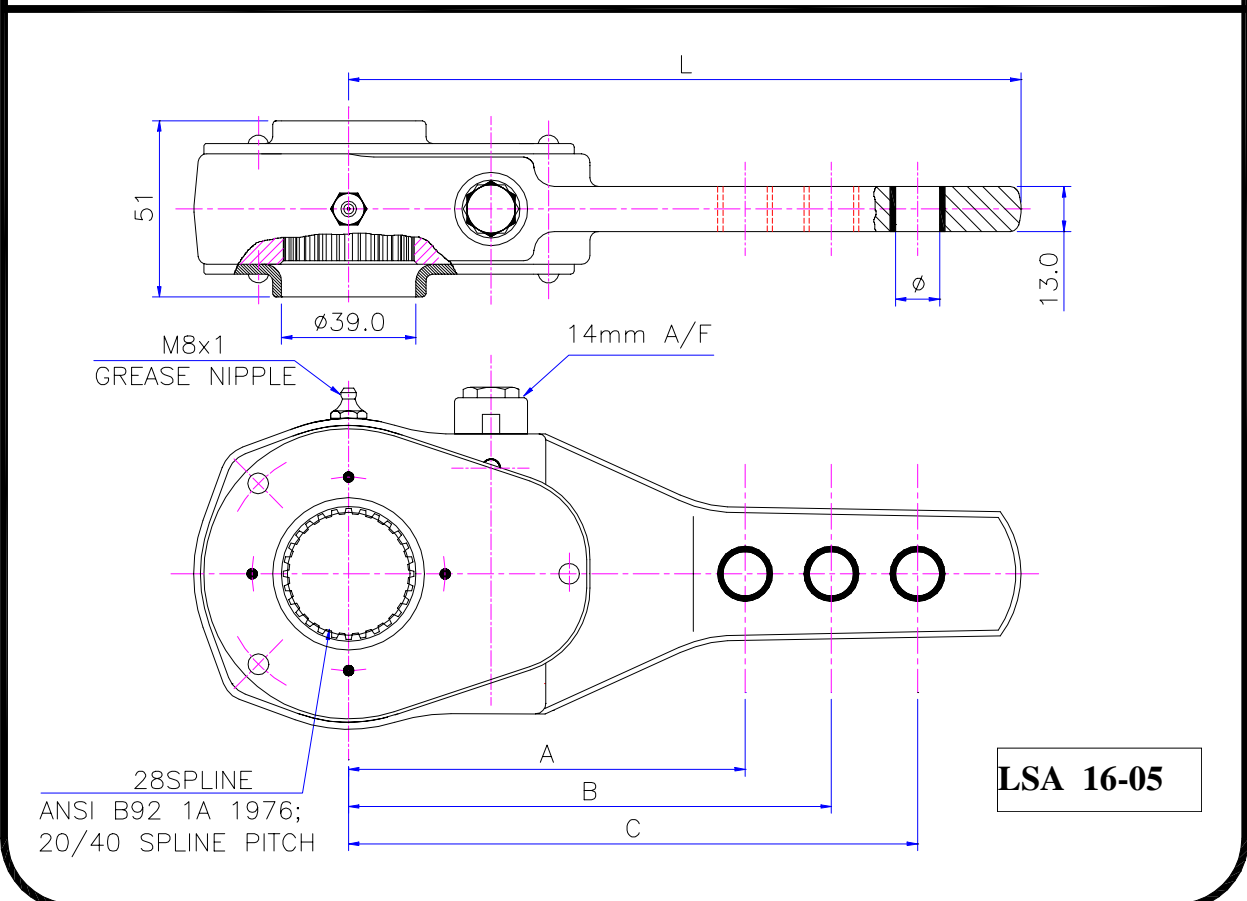
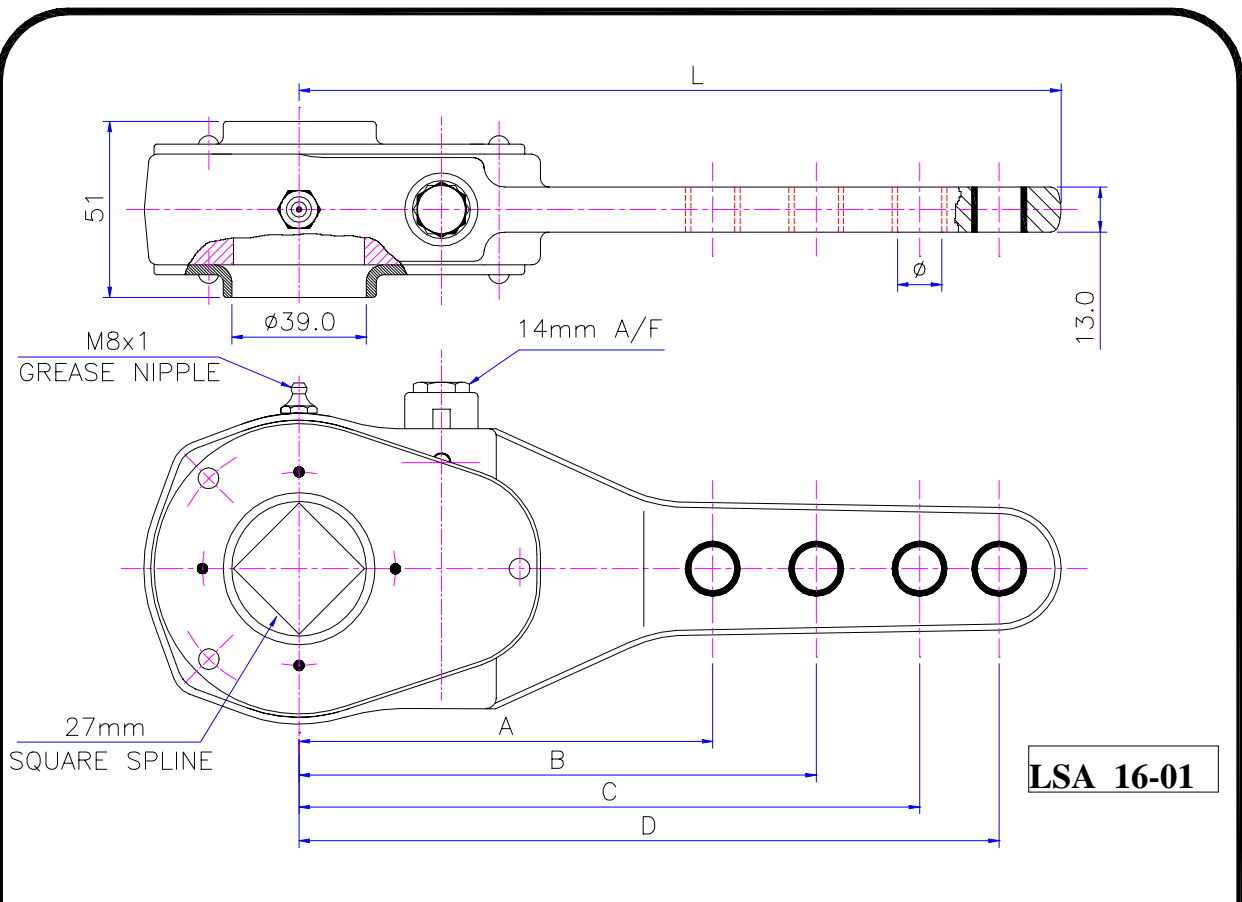
[illegible]

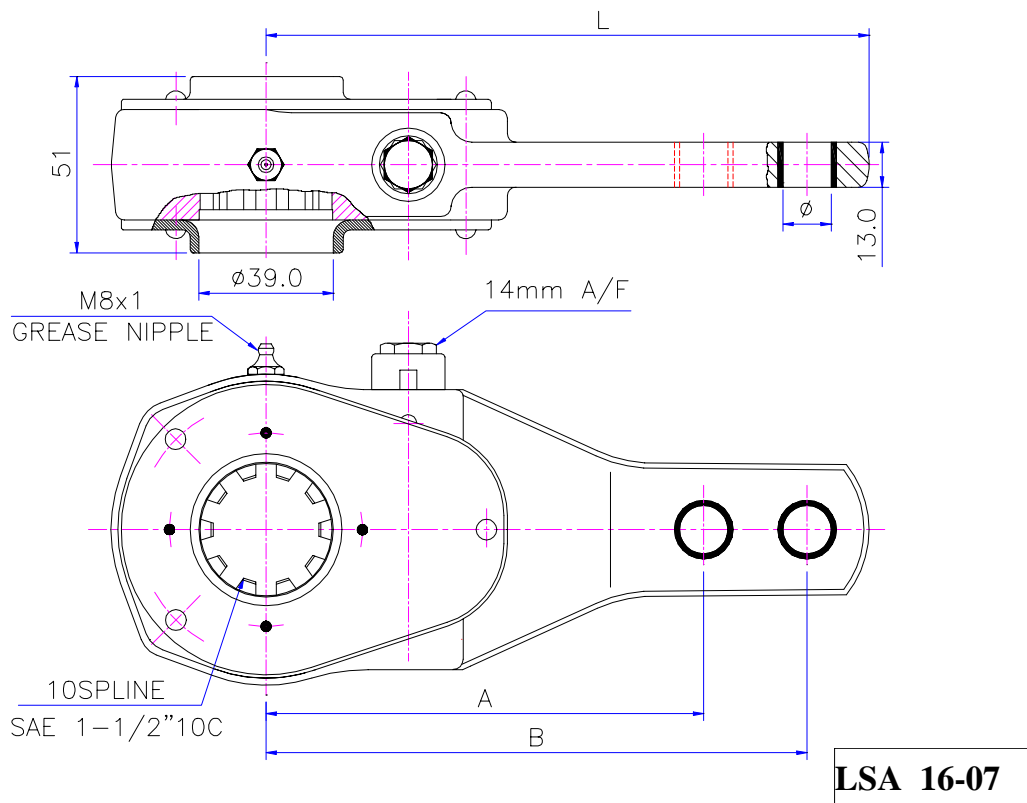
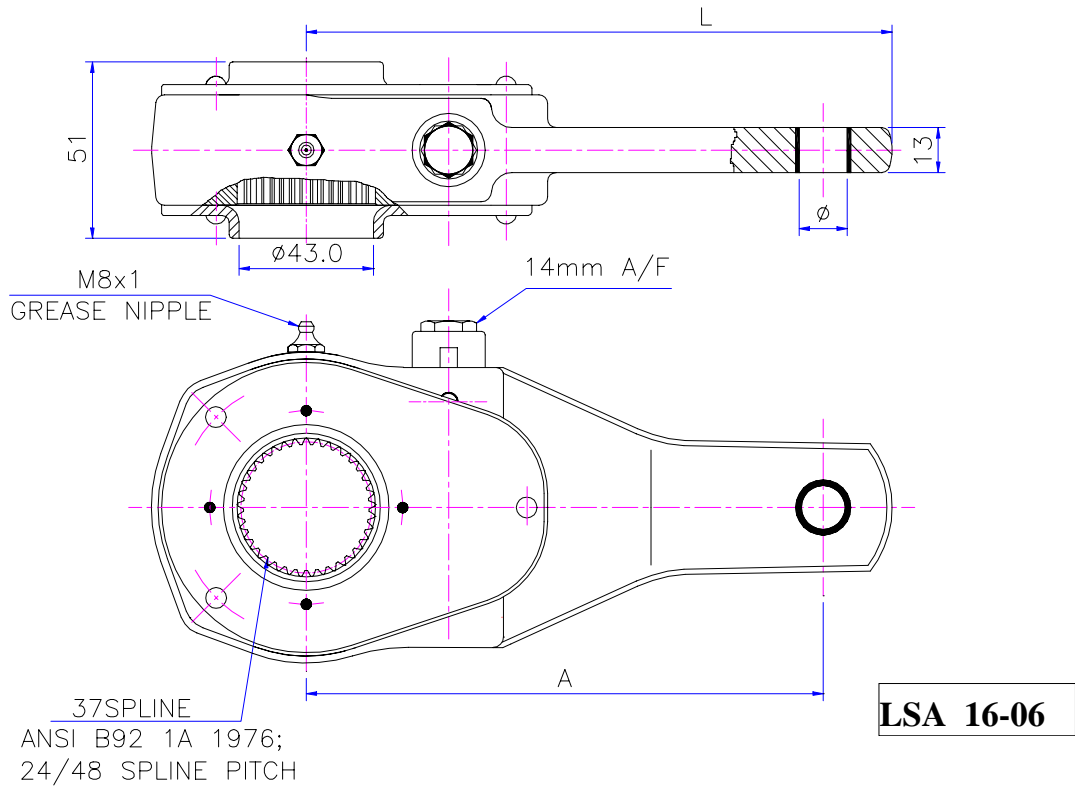


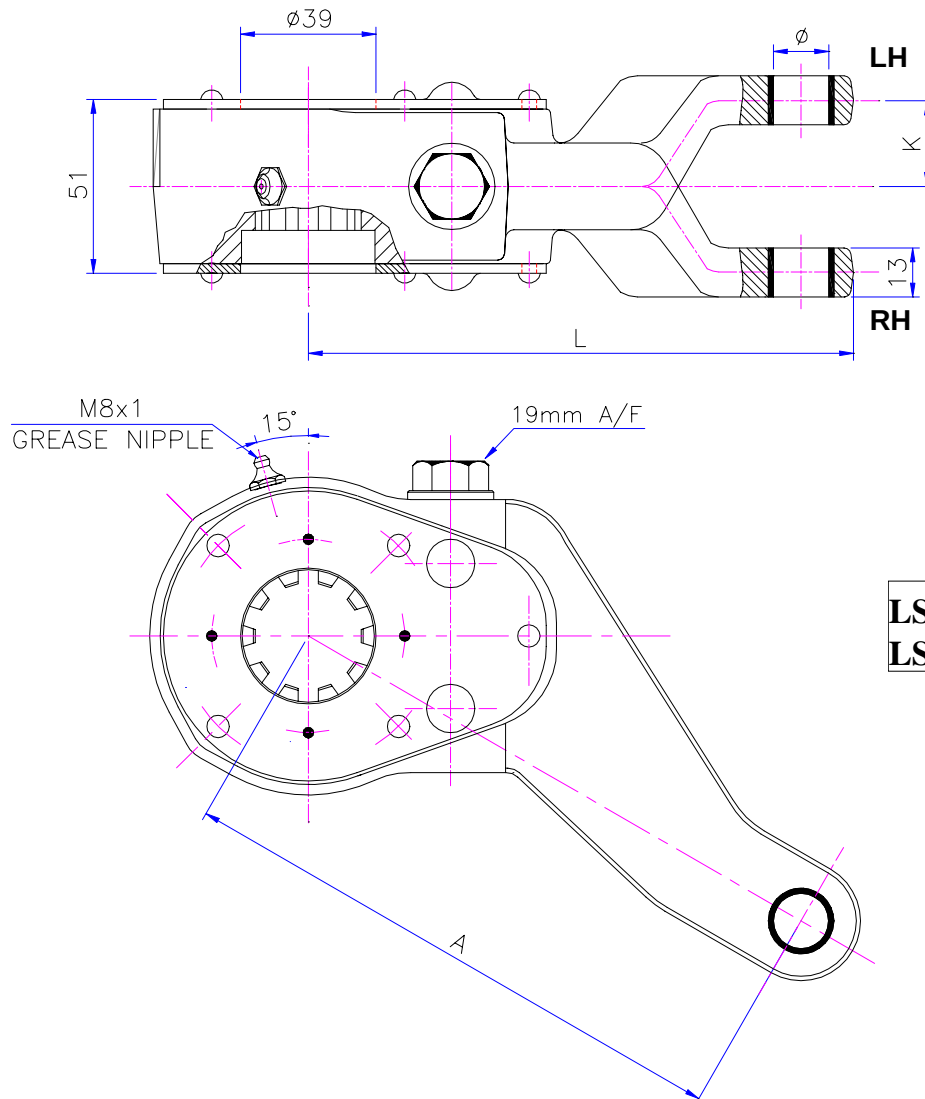
MEI PART NO.	ORIGINAL REF NO.	DIMENSIONS								OFFSET	LENGTH	TYPE
		A - Ø	B - Ø	C - Ø	D - Ø	E - Ø	F - Ø	G - Ø	K	L		
LSA 15-01	0351.956	127/12.7							-	145	Straight	
LSA 15-02	1501.310	152/16.0							-	170	Straight	
LSA 15-03	1505.342	165/16.0							-	185	Straight	
LSA 15-04		127/12.7							-	145	Straight	
LSA 15-05	0351.953	133/12.7							22.2	158	RH	
LSA 15-06	0351.954	133/12.7							22.2	158	LH	
LSA 15-07	1570.782	140/12.7							22.2	158	RH	
LSA 15-08	1570.781	140/12.7							22.2	158	LH	
LSA 15-09	0351.951	140/12.7							38.1	158	RH	
LSA 15-10	0351.952	140/12.7							38.1	158	LH	
LSA 15-11	0351.949	152/12.7							38.1	170	RH	
LSA 15-12	0351.950	152/12.7							38.1	170	LH	
LSA 15-13	1505.325	165/12.7							38.1	185	RH	
LSA 15-14	1505.324	165/12.7							38.1	185	LH	
LSA 15-17		127/12.7							12.7	158	RH	
LSA 15-18		127/12.7							12.7	158	LH	
LSA 15-20		127/12.7							-	145	Straight	
LSA 15-21		133/12.7							22.2	158	RH	
LSA 15-22		133/12.7							22.2	158	LH	
LSA 15-23		140/12.7							22.2	158	RH	
LSA 15-24		140/12.7							22.2	158	LH	
LSA 15-25		140/12.7							38.1	158	RH	
LSA 15-30		140/12.7							38.1	158	LH	
LSA 15-31		152/12.7							38.1	170	RH	
LSA 15-32		152/12.7							38.1	170	LH	
LSA 15-33		165/12.7							38.1	185	RH	
LSA 15-34		165/12.7							38.1	185	LH	
LSA 15-41		140/12.7							12.7	158	RH	
LSA 15-42		140/12.7							12.7	158	LH	

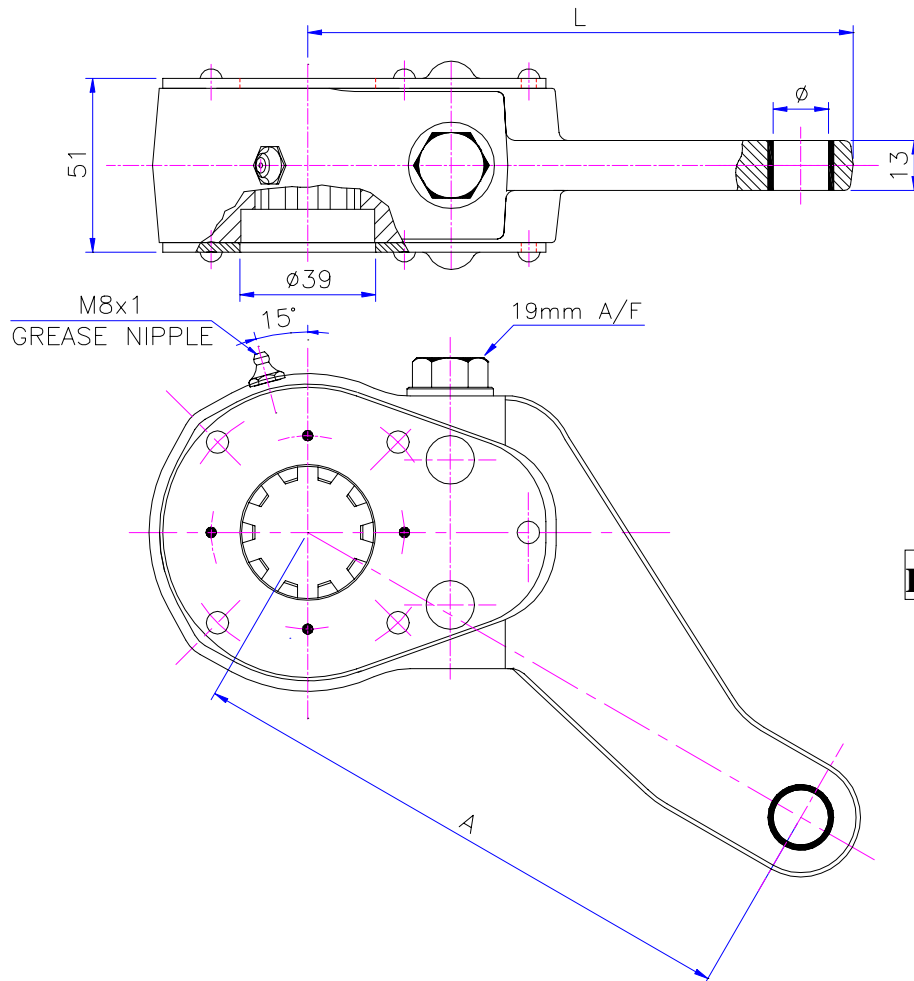


MEI PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET K	LENGTH L	TYPE
		A - Ø	B - Ø	C - Ø	D - Ø	E - Ø	F - Ø	G - Ø			
LSA 15-43		140/12.7							12.7	158	RH
LSA 15-44		140/12.7							12.7	158	LH
LSA 15-45		160/12.7							38.1	185	RH
LSA 15-46		160/12.7							38.1	185	LH
LSA 15-47		152/16.0								170	straight
LSA 15-48		165/16.0								185	straight









LSA 16-10

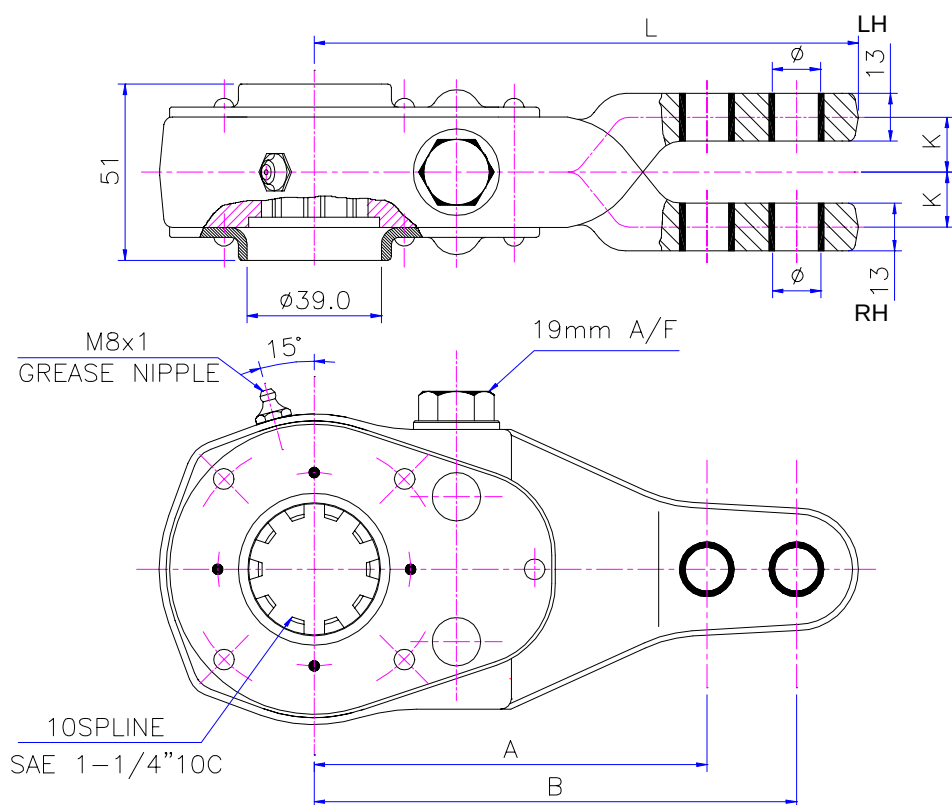


The technical drawing illustrates the LSA 16-2000 steering knuckle assembly in two views:

- Top View (Front View):** Shows the main body of the knuckle with a central hub bore labeled "10 SPLINE". The outer diameter of the hub is dimensioned as $\phi 39.0$. A grease nipple is located at the top left, specified as "M8x1 GREASE NIPPLE" with a 15° angle. A mounting point at the top center is labeled "19mm A/F". The overall width is dimensioned as "A". Two circular features on the right side are associated with the "LSA 16-2000" part designation.
- Bottom View (Side View):** Shows the profile of the knuckle arm. Key dimensions include:
 - "L": Overall length from the hub face to the end of the arm.
 - "K": Distance from the hub centerline to the center of the upper/lower ball joint.
 - "RH": Radius height from the hub centerline to the bottom edge of the arm.
 - "13": Vertical distance from the hub centerline to the top/bottom edges of the arm.
 - " ϕ ": Diameter of the ball joint pins.
 - "H": Height of the upper/lower ball joint housing.

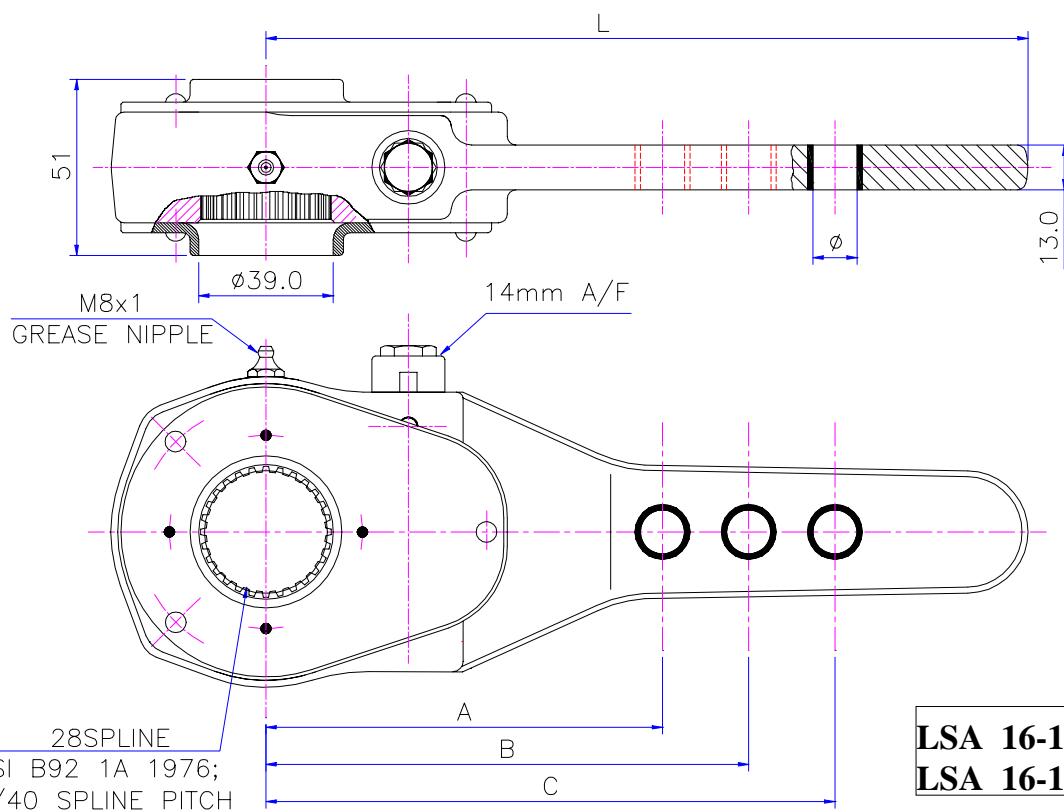
A box in the bottom right corner identifies the components as "LSA 16-2000" and "LSA 16-2000".

LSA 16-11□
LSA 16-12

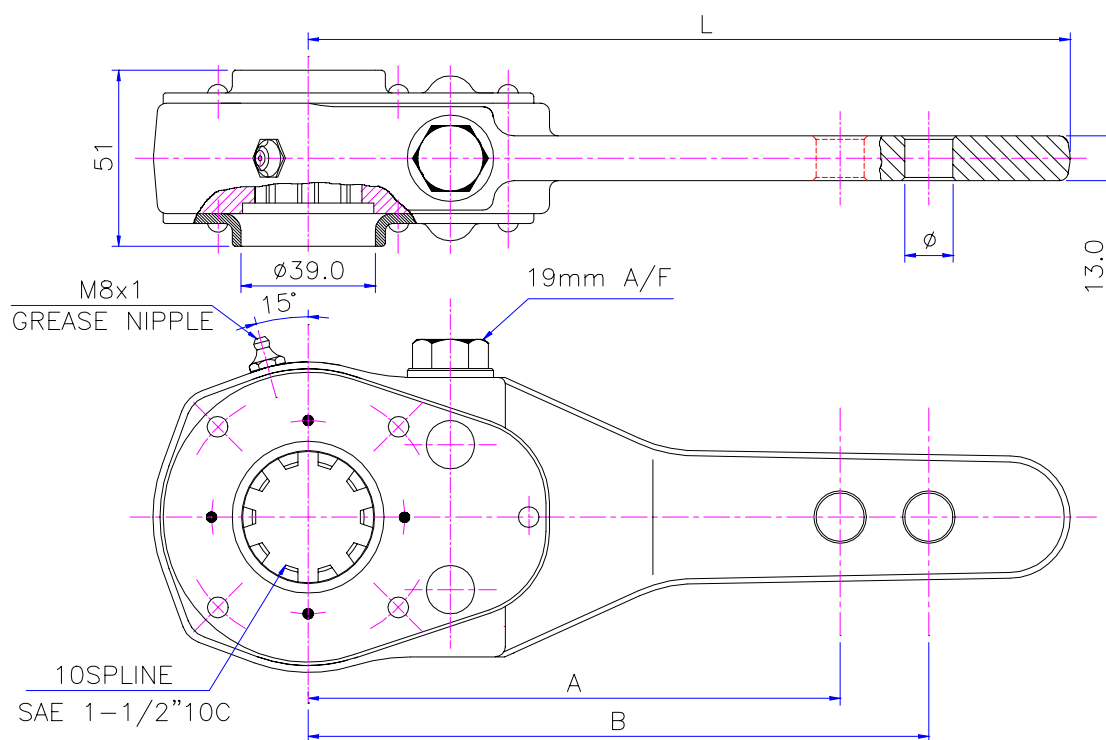


LSA 16-13

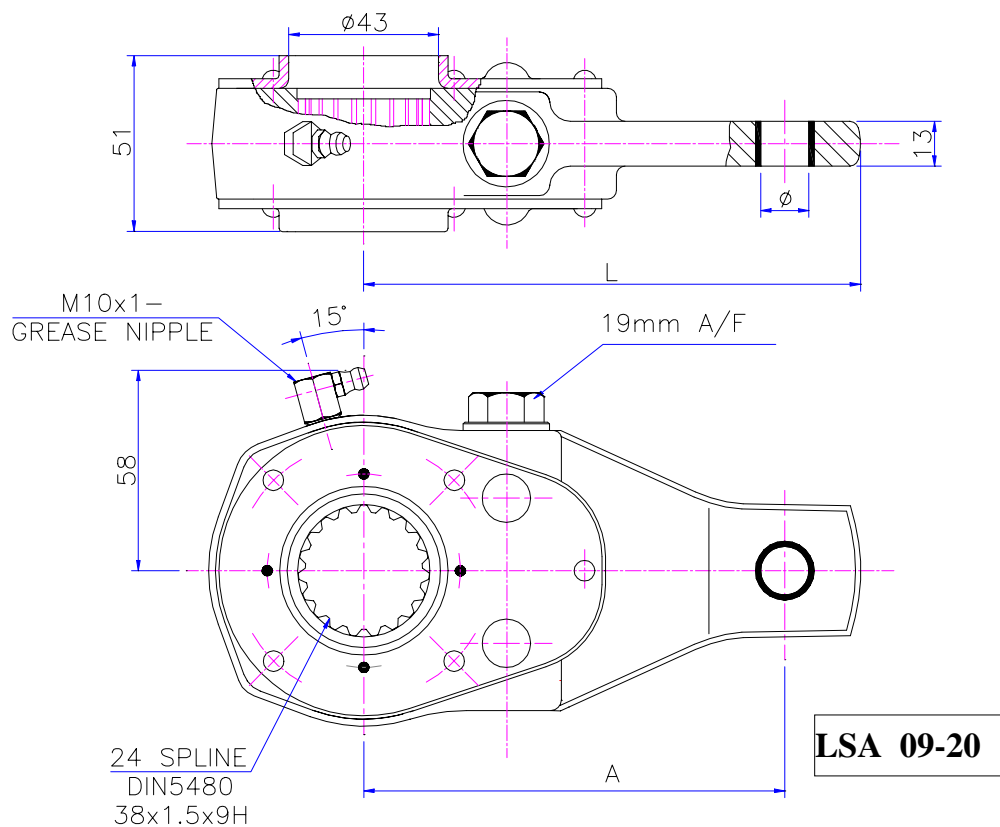
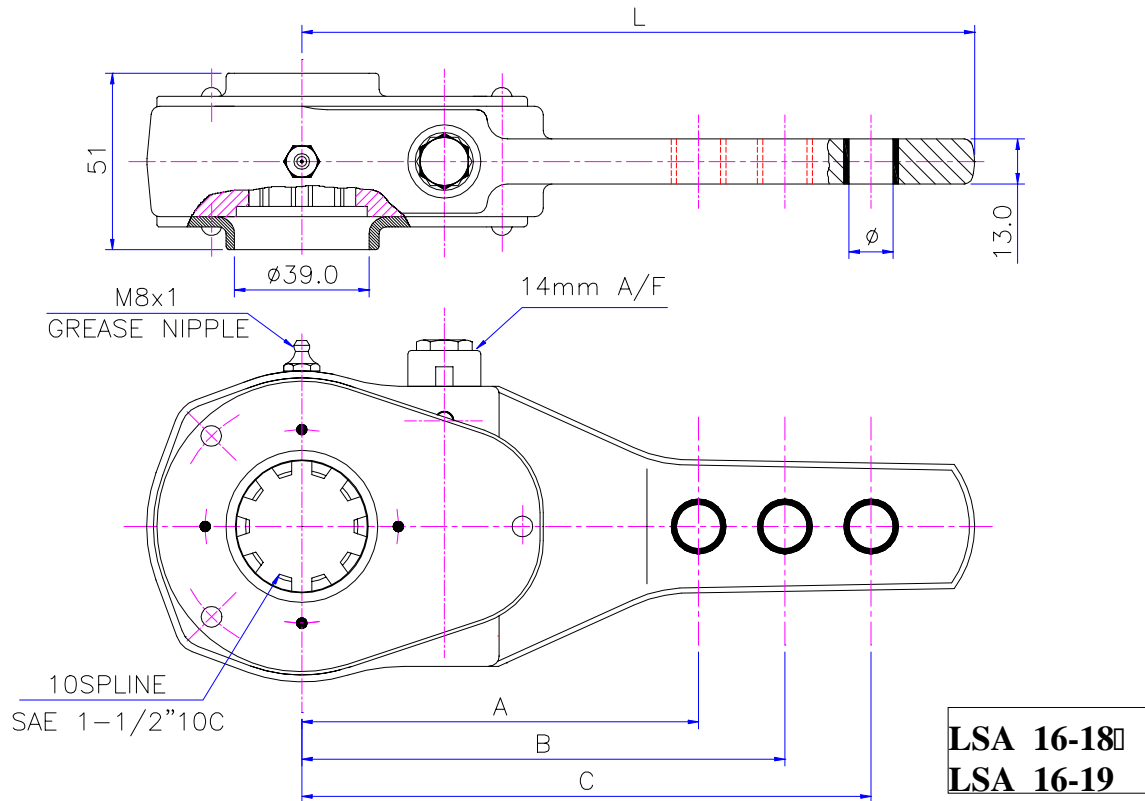
LSA 16-14

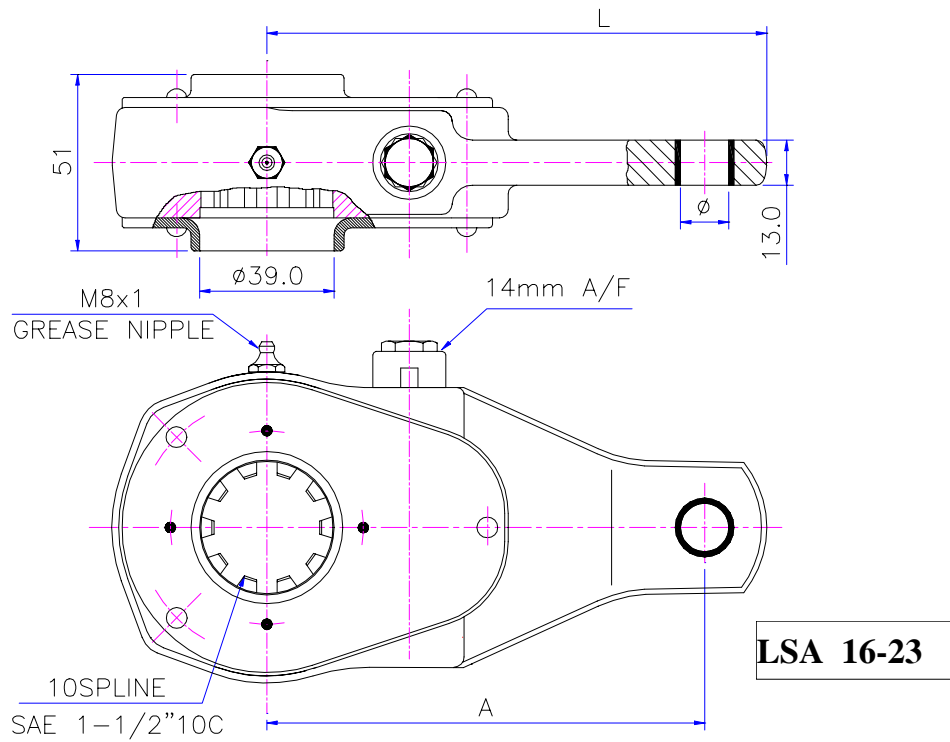
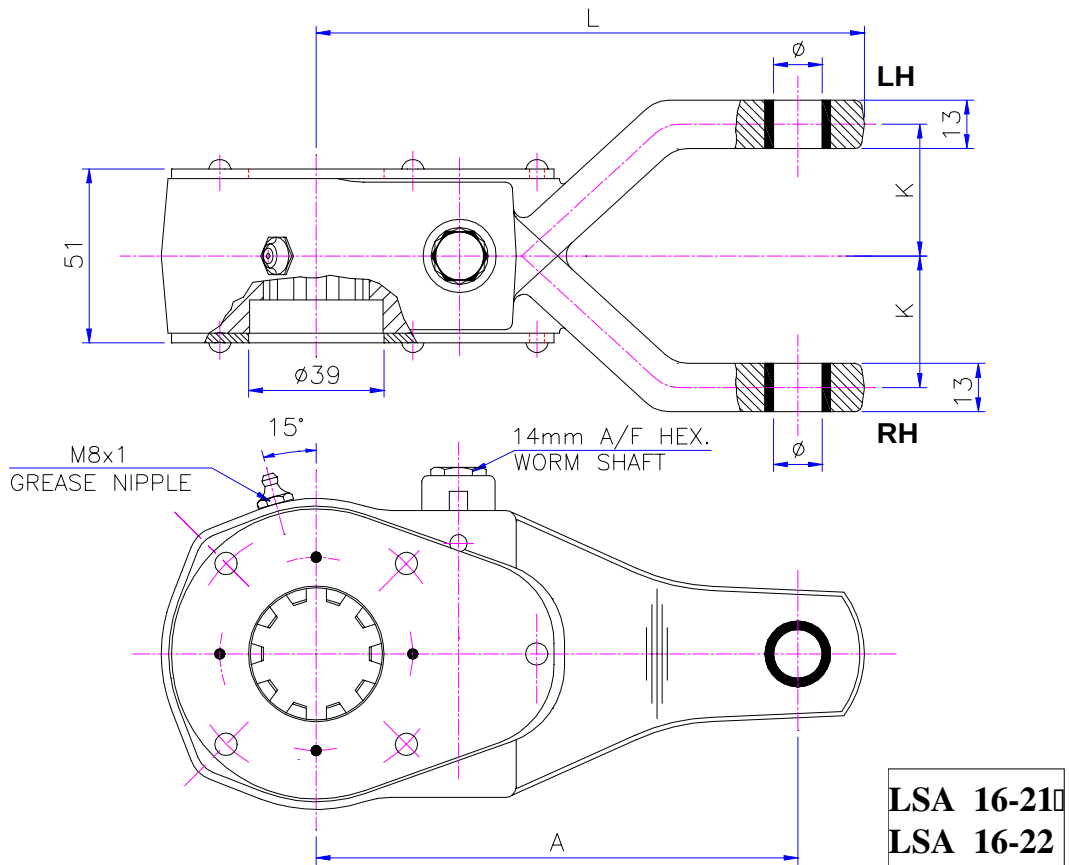


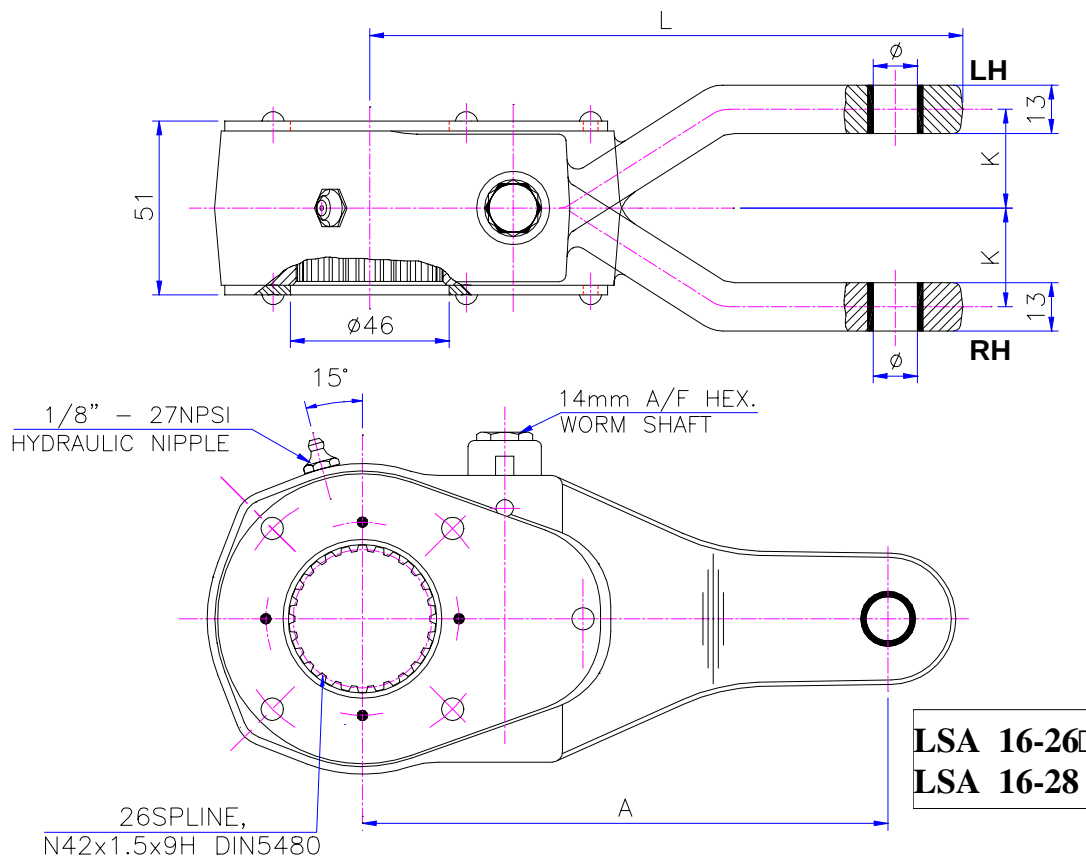
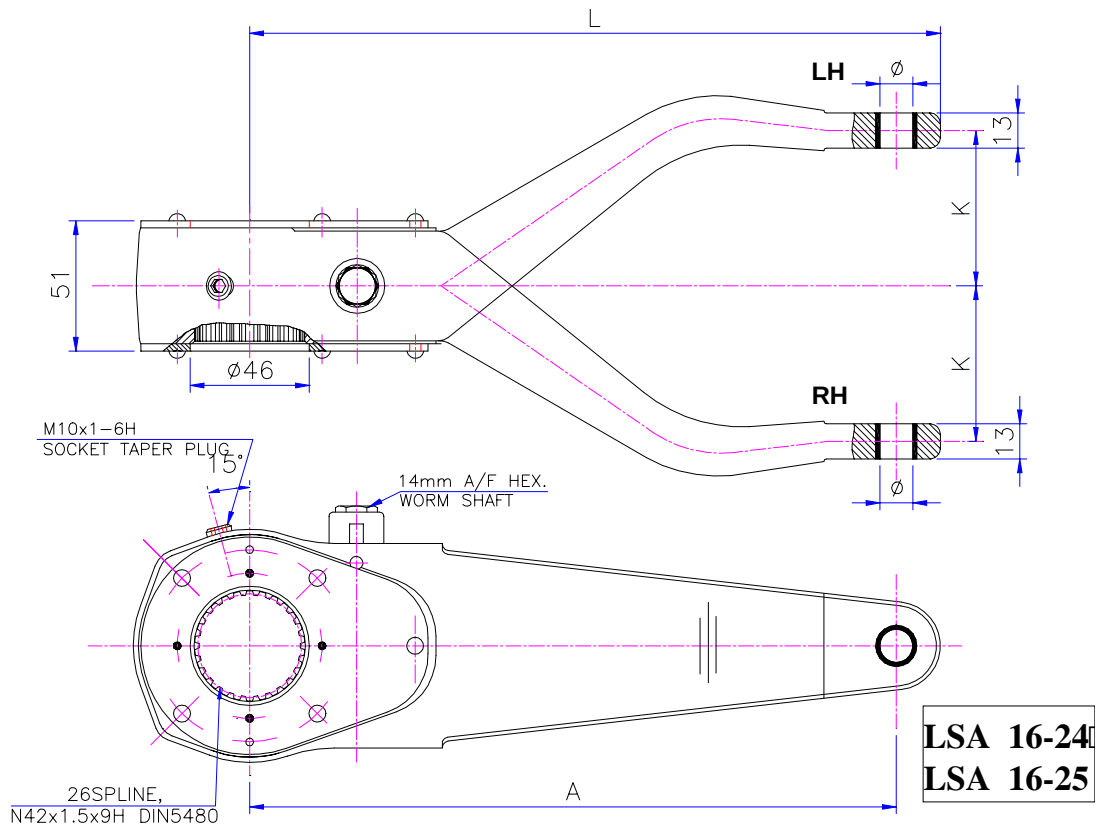
LSA 16-15
LSA 16-16

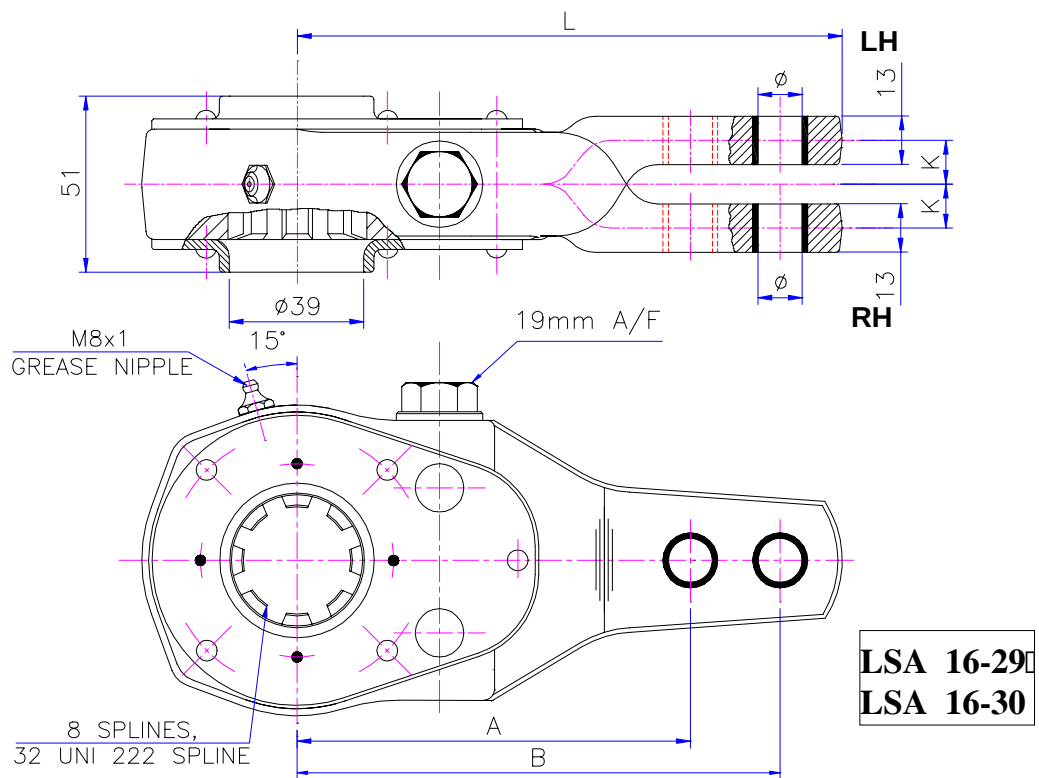
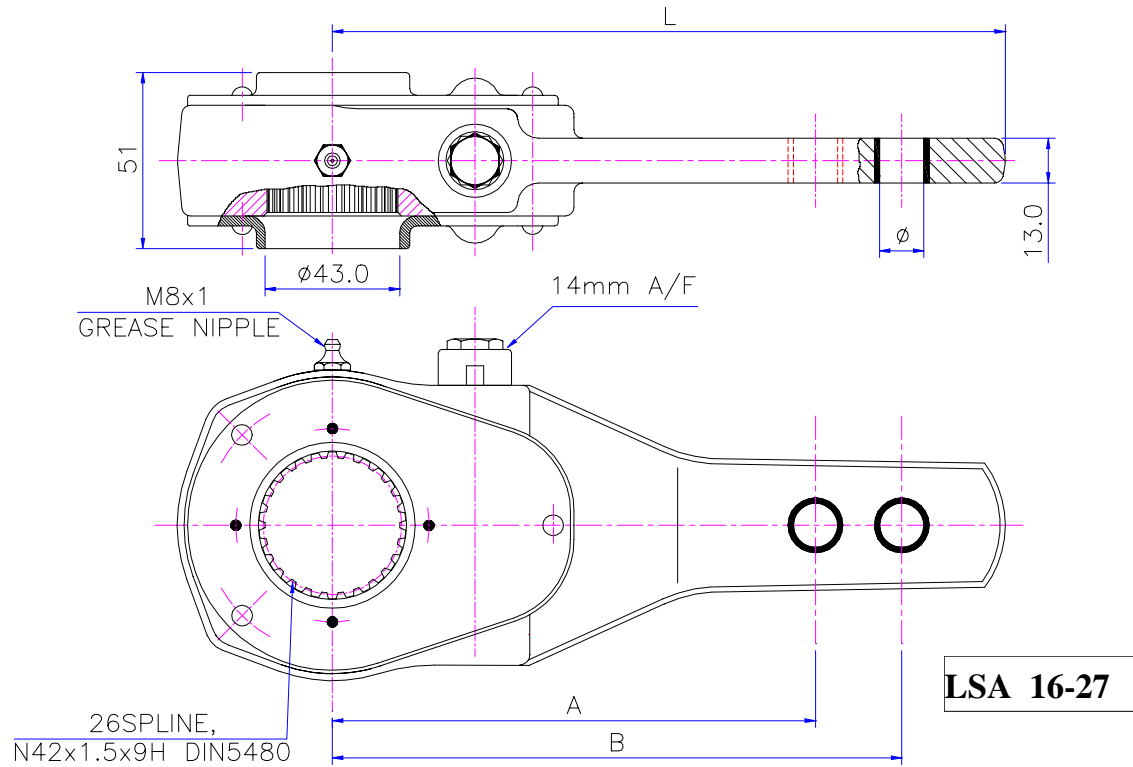


LSA 16-17











Technical drawing of the 10SPLINE SAE 1-1/2"10C component, showing side and front views with dimensions and labels.

Side View Dimensions:

- Overall length: L
- Height: 51
- Shaft diameter: $\phi 39.0$
- Shaft length: 19mm A/F
- Shaft diameter: ϕ
- Shaft length: 13.0

Front View Dimensions:

- Overall width: A
- Overall length: B

Labels:

- M8x1 GREASE NIPPLE
- 10SPLINE
- SAE 1-1/2"10C

Technical drawing of the LSA 16-40 and LSA 16-41 hydraulic pumps, showing side and front views with dimensions and labels.

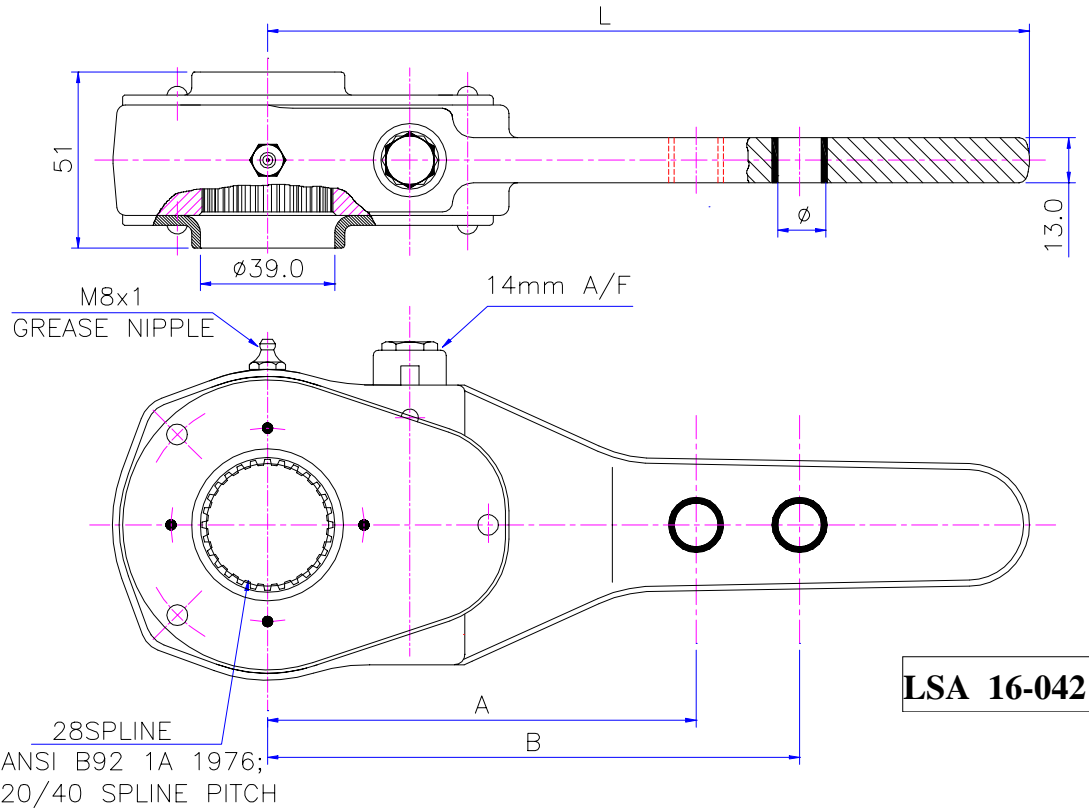
Side View Dimensions and Labels:

- LH** (Left Hand) and **RH** (Right Hand) configurations.
- 51**: Mounting flange diameter.
- 39**: Central shaft diameter ($\phi 39$).
- 14mm A/F**: Shaft diameter at the output end.
- M8x1 GREASE NIPPLE**: Location of the grease nipple.
- 10SPLINE**: Location of the 10-spline input.
- SAE 1-1/4"10C**: Location of the SAE 1-1/4"10C output.
- L**: Total length of the pump.
- 13**: Distance from the mounting flange to the output end.
- K**: Distance from the mounting flange to the 10-spline input.

Front View Dimensions and Labels:

- 10SPLINE**: Location of the 10-spline input.
- SAE 1-1/4"10C**: Location of the SAE 1-1/4"10C output.
- A**: Distance from the mounting flange to the 10-spline input.
- B**: Distance from the mounting flange to the SAE 1-1/4"10C output.

LSA 16-40
LSA 16-41



MEI PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET K	LENGTH L	TYPE
		A - Ø	B - Ø	C - Ø	D - Ø	E - Ø	F - Ø	G - Ø			
LSA 16-01		127/12.7	152/12.7	178/12.7	203/12.7				-	218	Straight
LSA 16-05		127/12.7	152/12.7	178/12.7					-	195	Straight
LSA 16-06		152/12.7							-	170	Straight
LSA 16-07		140/12.7	165/12.7						-	182	Straight
LSA 16-08		165/16.05							25.1	159	RH
LSA 16-09		165/16.05							25.1	159	LH
LSA 16-10		165/16.05							-	159	Straight
LSA 16-11		152/12.7	178/12.7						15.9	196	RH
LSA 16-12		152/12.7	178/12.7						15.9	196	LH
LSA 16-13		114/12.7	140/12.7						15.9	158	RH
LSA 16-14		114/12.7	140/12.7						15.9	158	LH
LSA 16-15		127/12.7	152/12.7	178/12.7					-	218	Straight
LSA 16-16		140/12.7	165/12.7						-	218	Straight

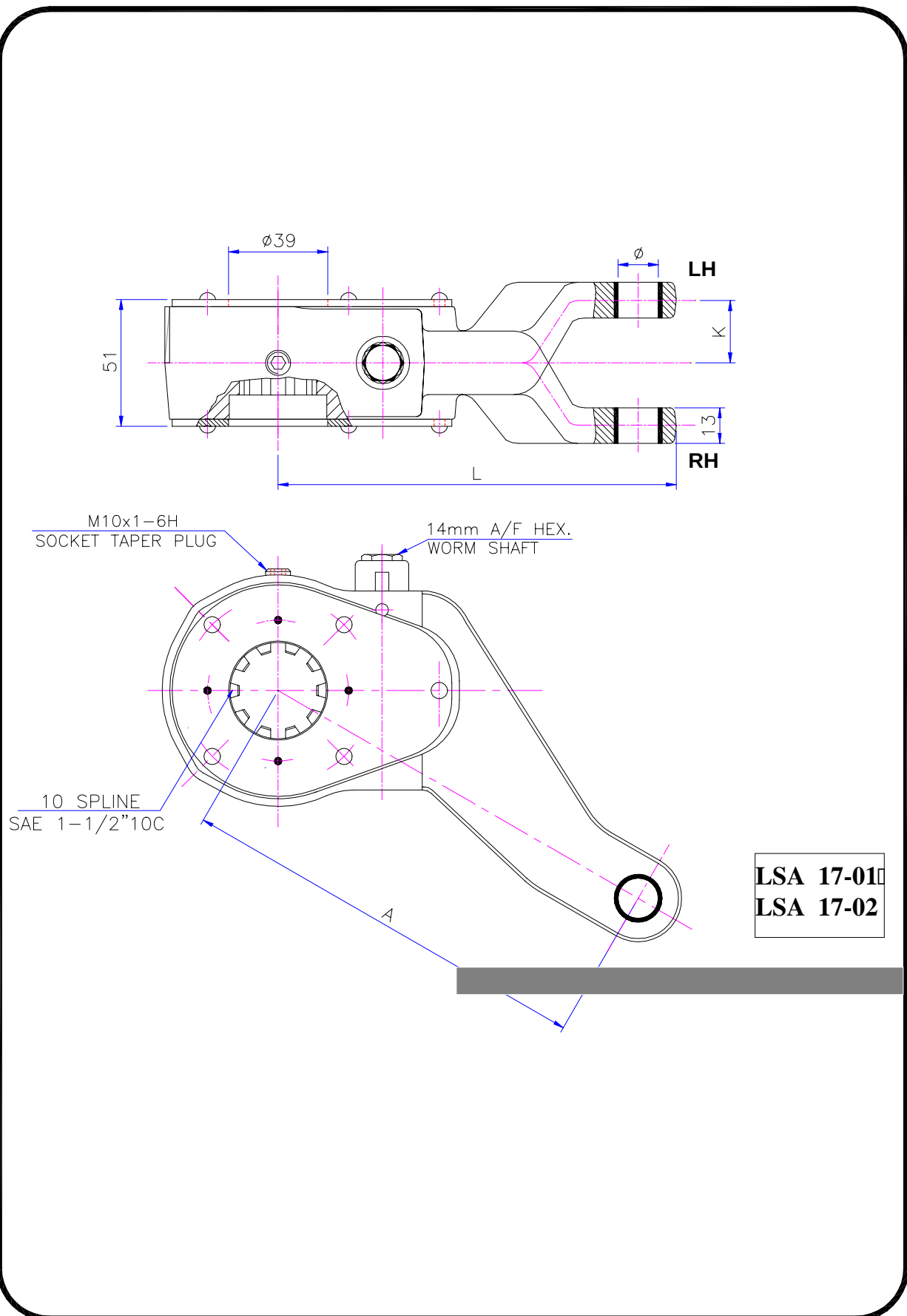


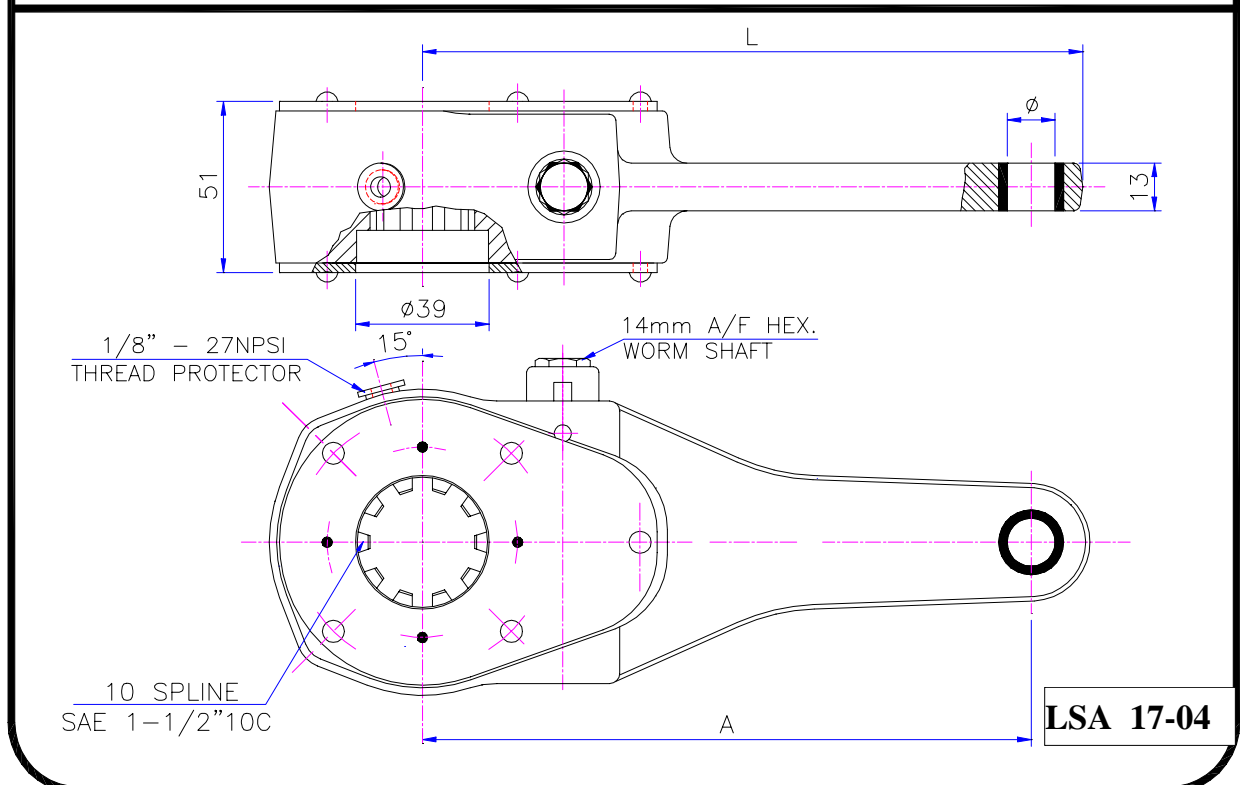
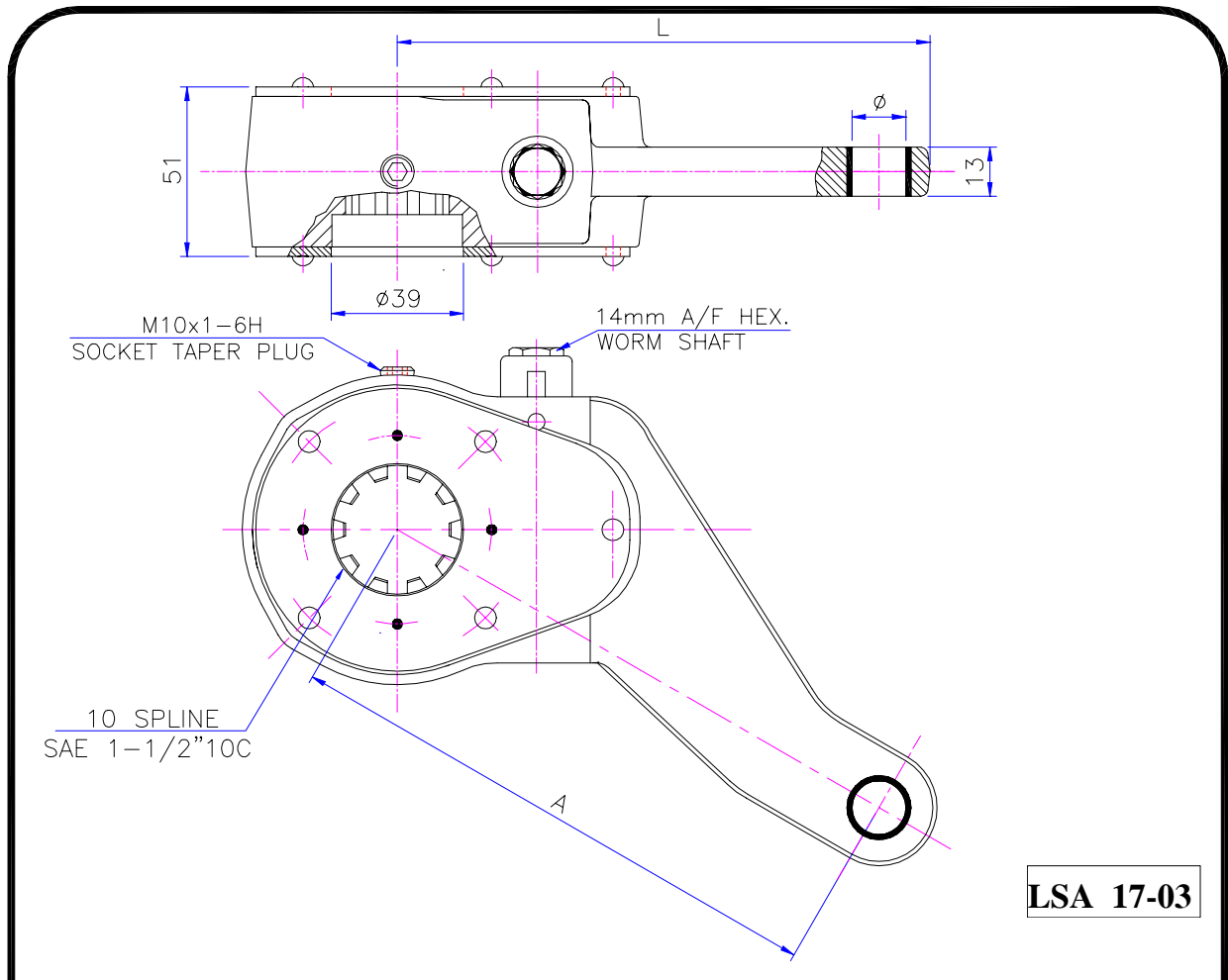
MEI PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET K	LENGTH L	TYPE
		A - Ø	B - Ø	C - Ø	D - Ø	E - Ø	F - Ø	G - Ø			
LSA 16-17		140/12.7	165/12.7						-	218	Straight
LSA 16-18		127/12.7	152/12.7	178/12.7					-	195	Straight
LSA 16-19		114/12.7	140/12.7						-	195	Straight
LSA 16-20		140/12.7							-	155	Straight
LSA 16-21		127/14.0							38.1	158	RH
LSA 16-22		127/14.0							38.1	158	LH
LSA 16-23		127/14.0							-	145	Straight
LSA 16-24		250/16.0							-	266	RH
LSA 16-25		250/16.0							60	266	LH
LSA 16-26		154.2/12.7							28.6	169	RH
LSA 16-27		139.7/12.7	177.8/12.7						-	145	Straight
LSA 16-28		152.4/12.7							28.6	169	LH
LSA 16-29		114/12.7	140/12.7						15.9	158	RH
LSA 16-30		114/12.7	140/12.7						15.9	158	LH
LSA 16-39		140/12.7	165/12.7						-	182	Straight
LSA 16-40		114/12.7	140/12.7						15.9	158	RH
LSA 16-41		114/12.7	140/12.7						15.9	158	LH
LSA 16-42		127/12.7	152/12.7						-	218	Straight



LUDAL LIMITED

OTHERS - 17 SERIES

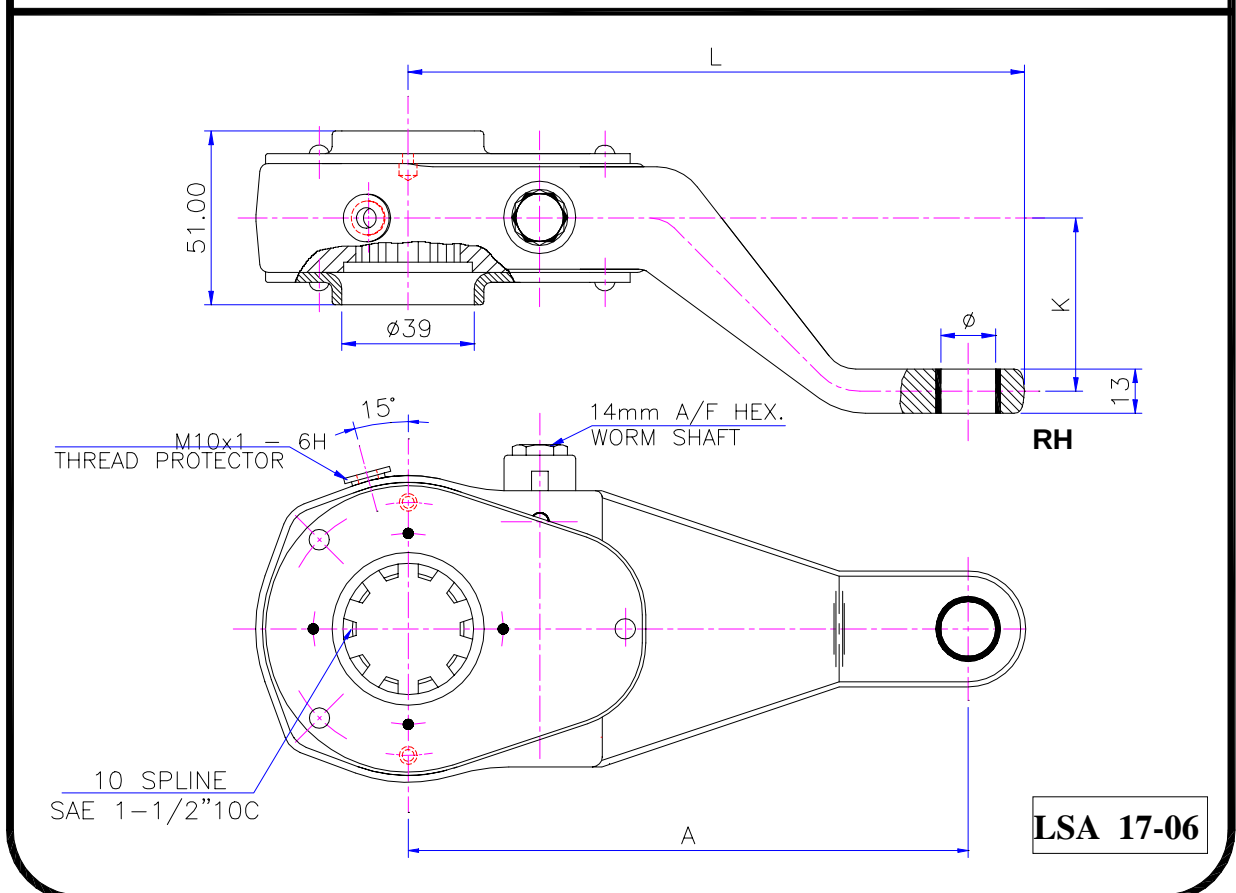
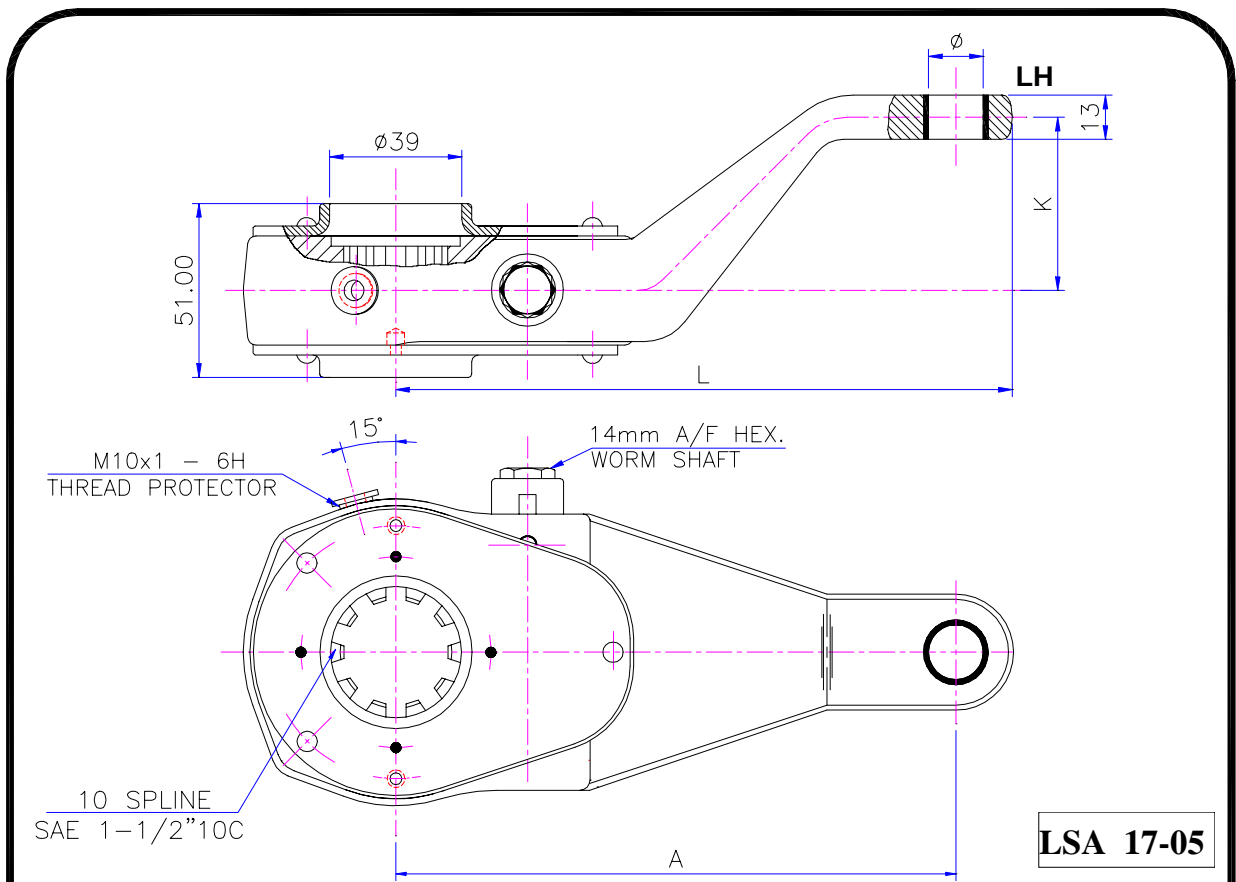


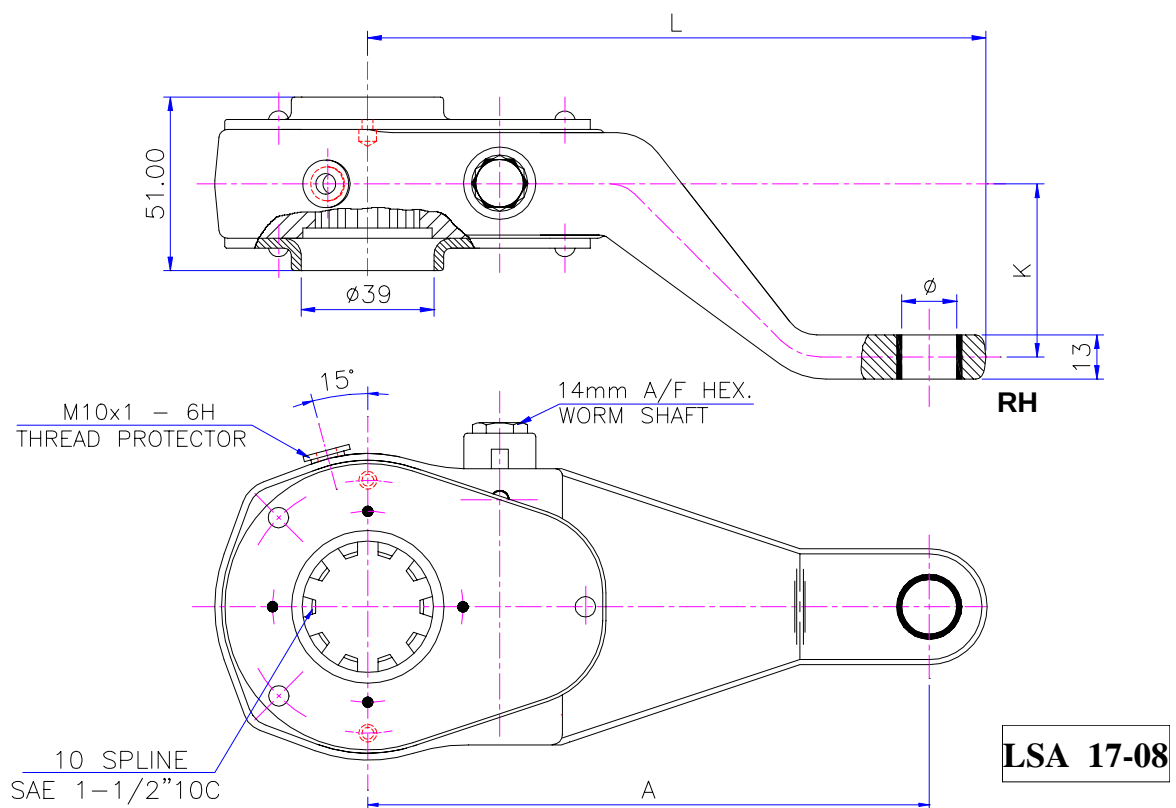
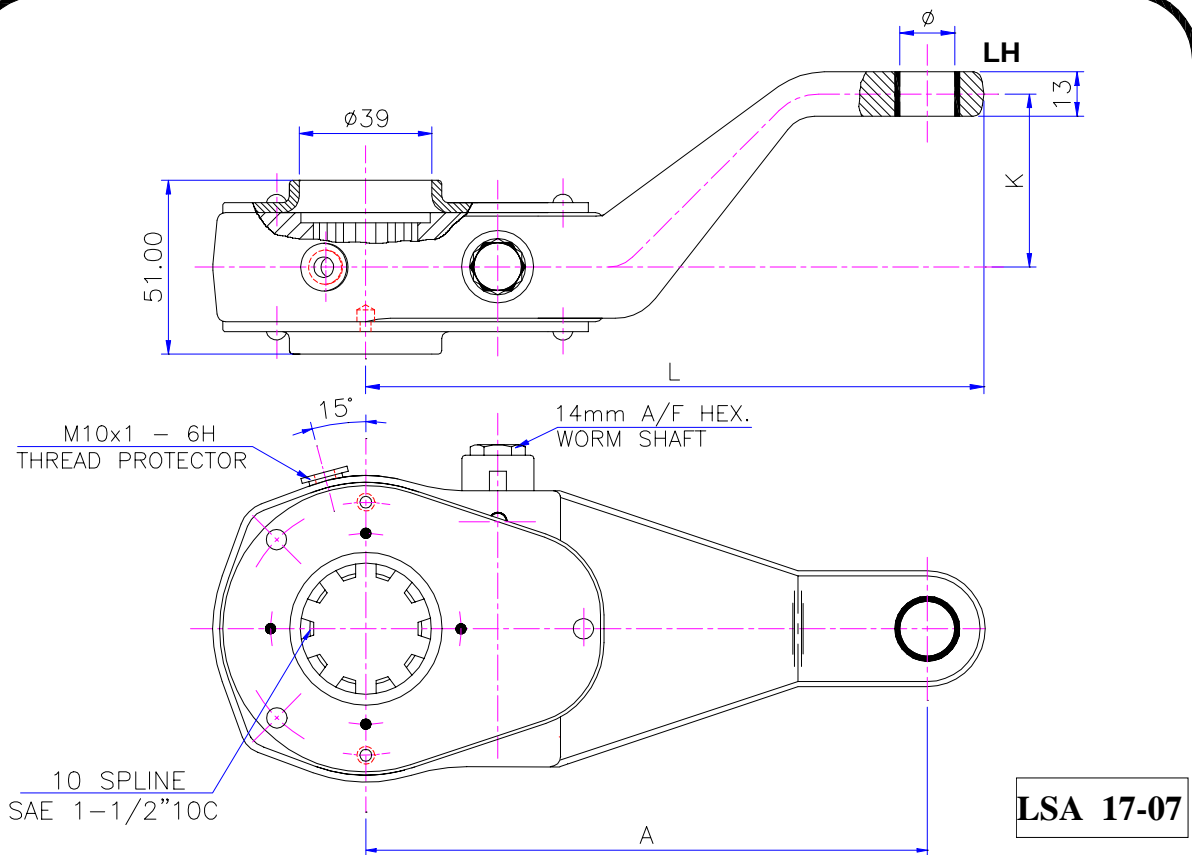




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OTHERS - 17 SERIES







1/8" - 27NPSI
THREAD PROTECTOR

15°

14mm A/F HEX.
WORM SHAFT

10 SPLINE
SAE 1-1/2"10C

51.00

ø39

L

13

13

K

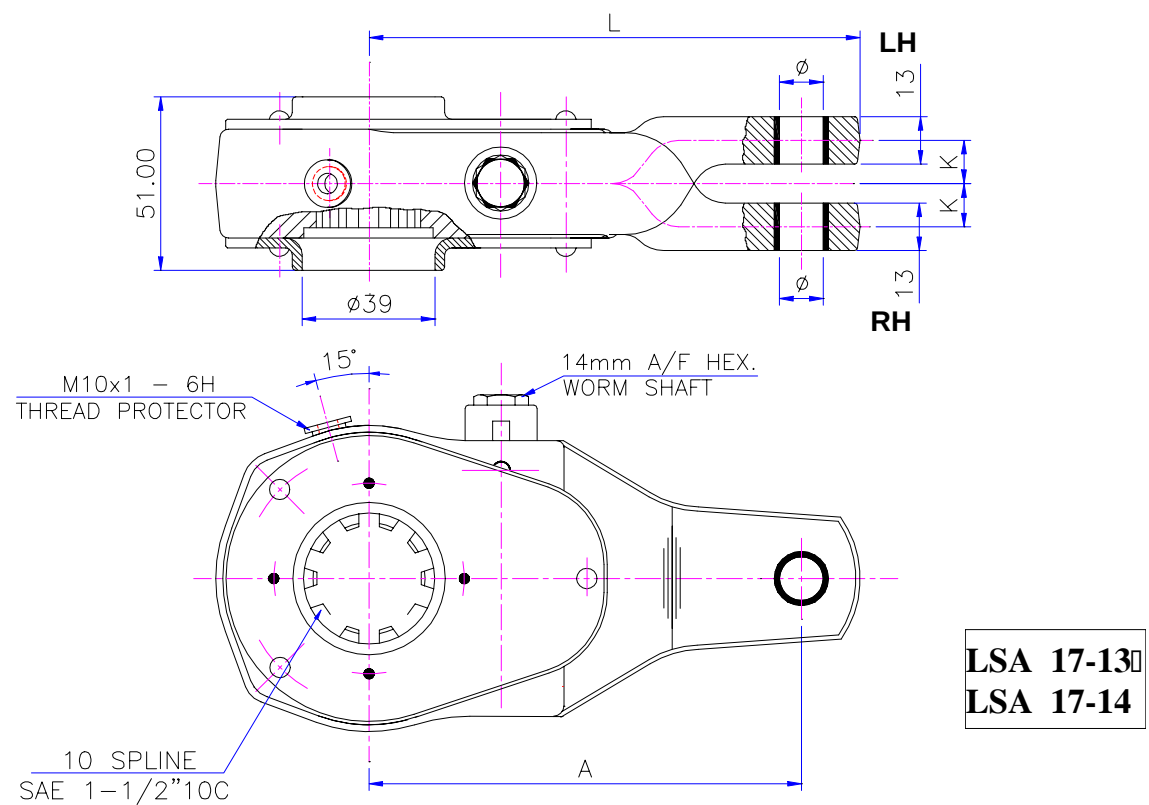
K

LH

RH

A

LSA 17-09
LSA 17-10
LSA 17-11
LSA 17-12





Technical drawing of the LSA 17-15 and LSA 17-16 worm gear assembly. The drawing includes a side view (top) and a front view (bottom).

Side View Dimensions:

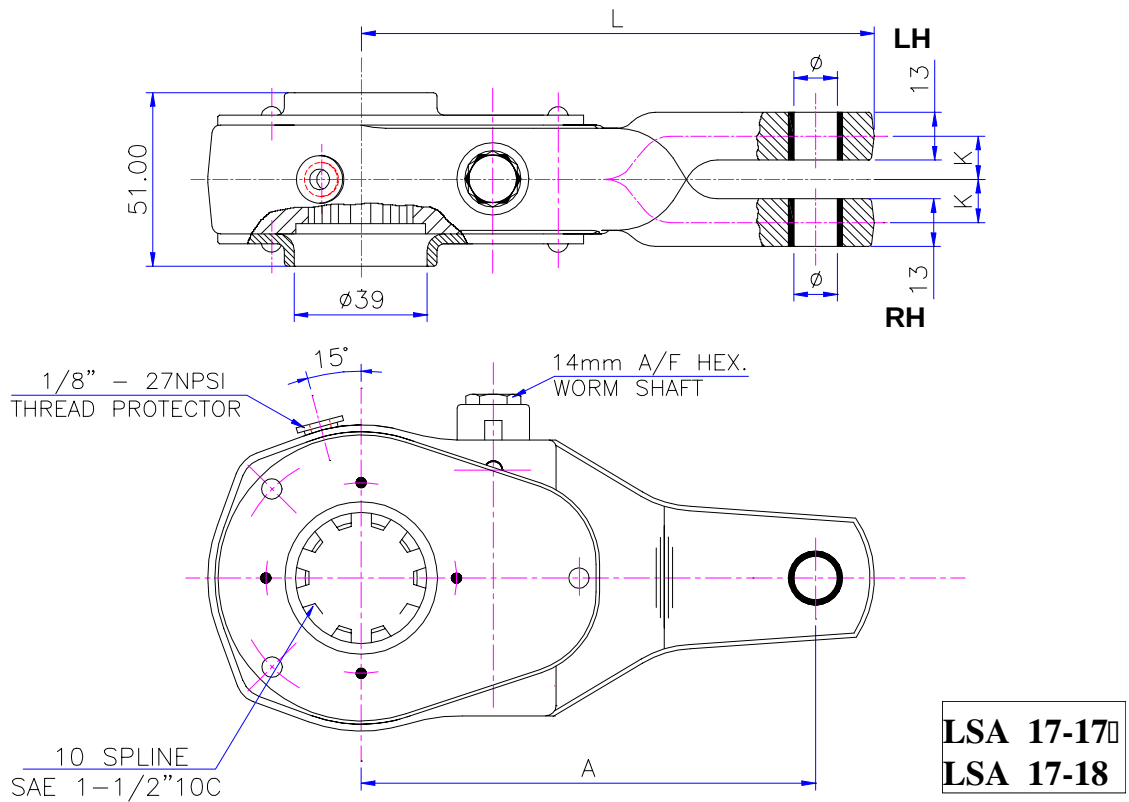
- Total length: L
- Mounting flange diameter: 51.00
- Mounting flange bore diameter: $\phi 39$
- Worm gear diameter: 13
- Worm gear bore diameter: ϕ
- Worm gear bore length: K
- Worm gear bore offset: K
- Worm gear bore offset: K
- Worm gear bore offset: K

Front View Dimensions:

- 15° angle
- 14mm A/F HEX. WORM SHAFT
- 10 SPLINE
- SAE 1-1/2"10C
- Overall width: A

Labels:

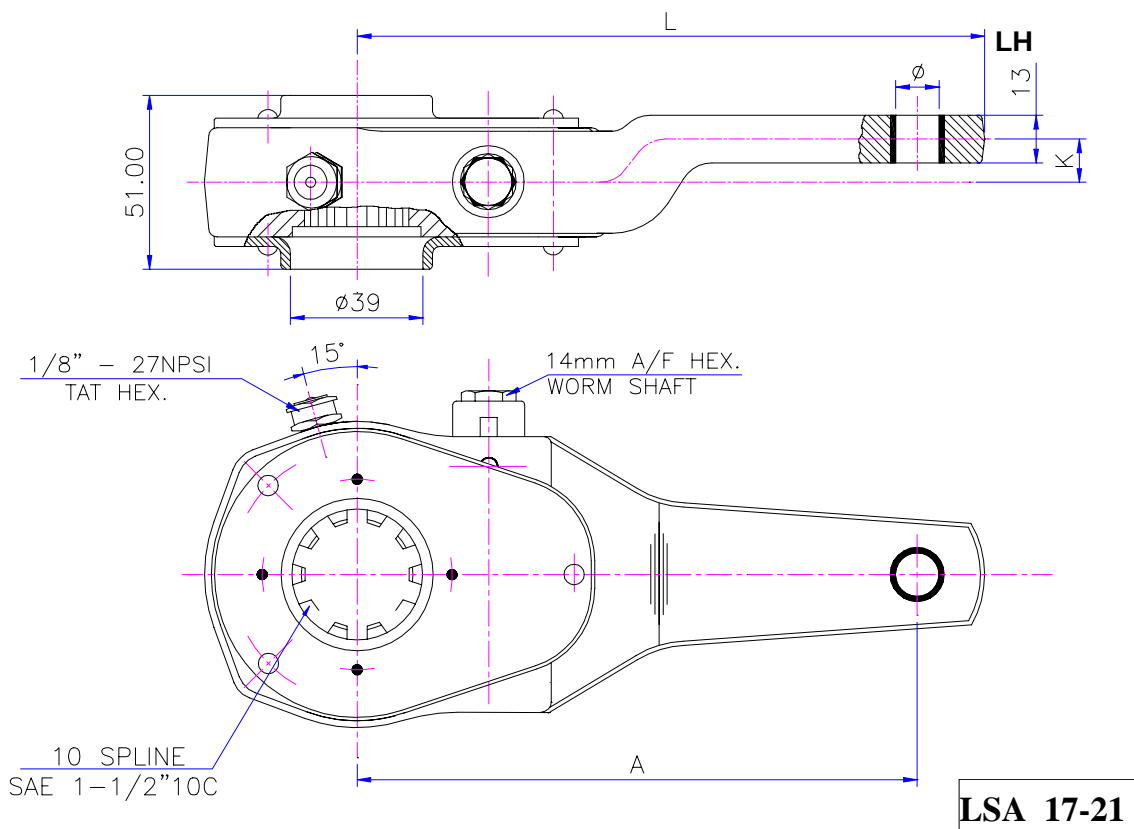
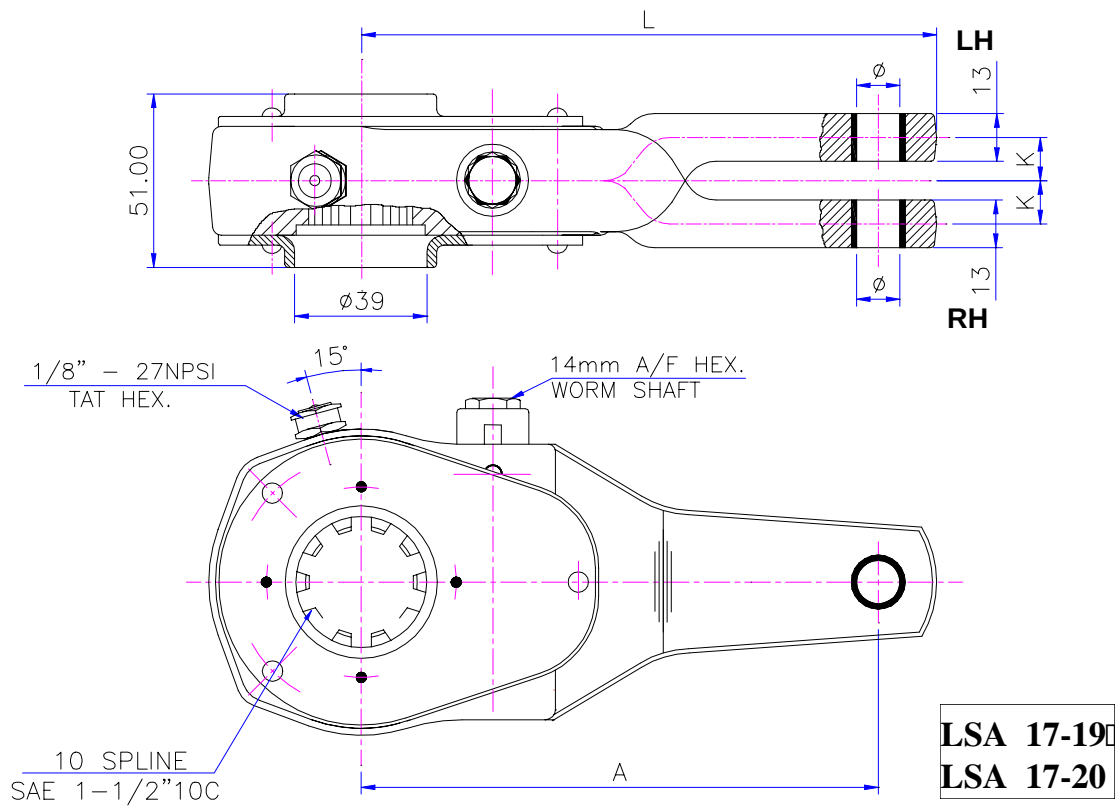
- M10x1-6H SOCKET TAPER PLUG
- 14mm A/F HEX. WORM SHAFT
- 10 SPLINE
- SAE 1-1/2"10C
- LSA 17-15
- LSA 17-16

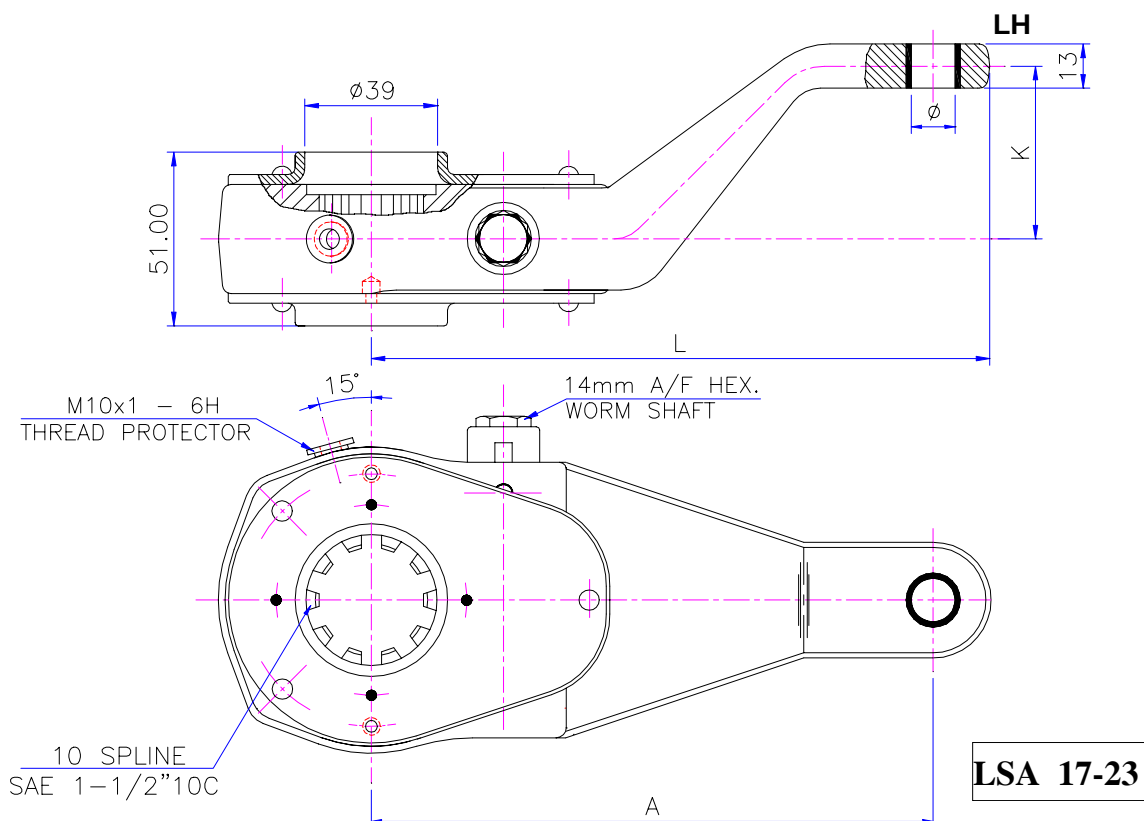
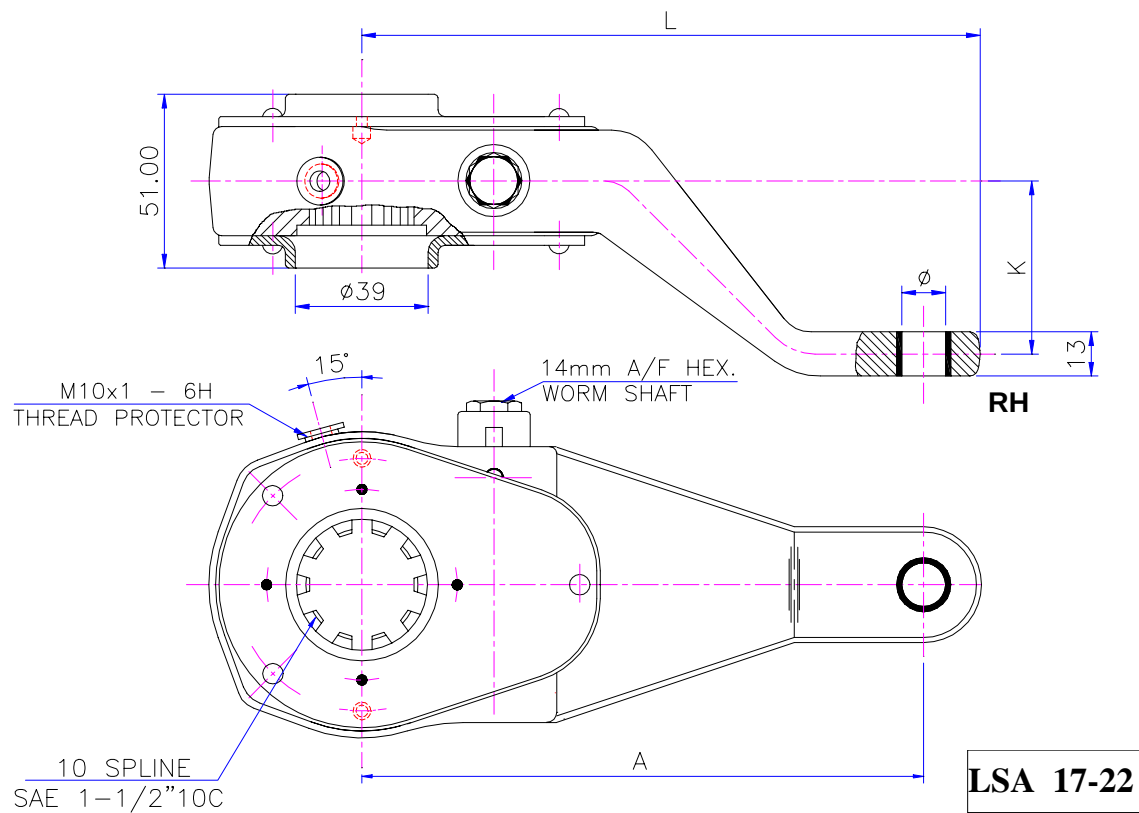


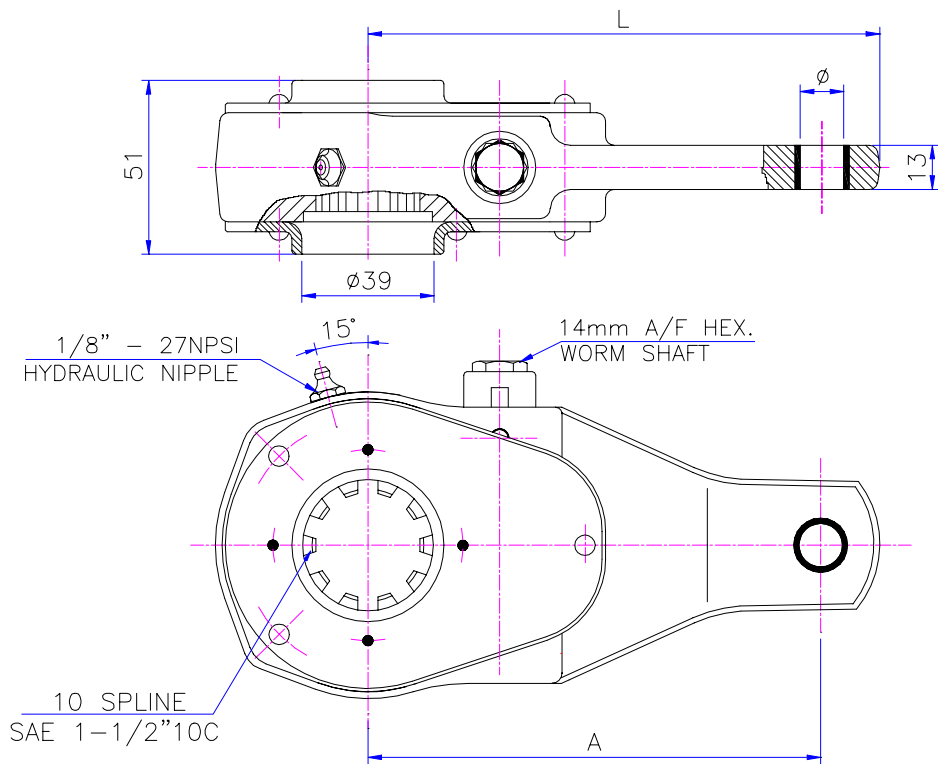


LUDAL LIMITED

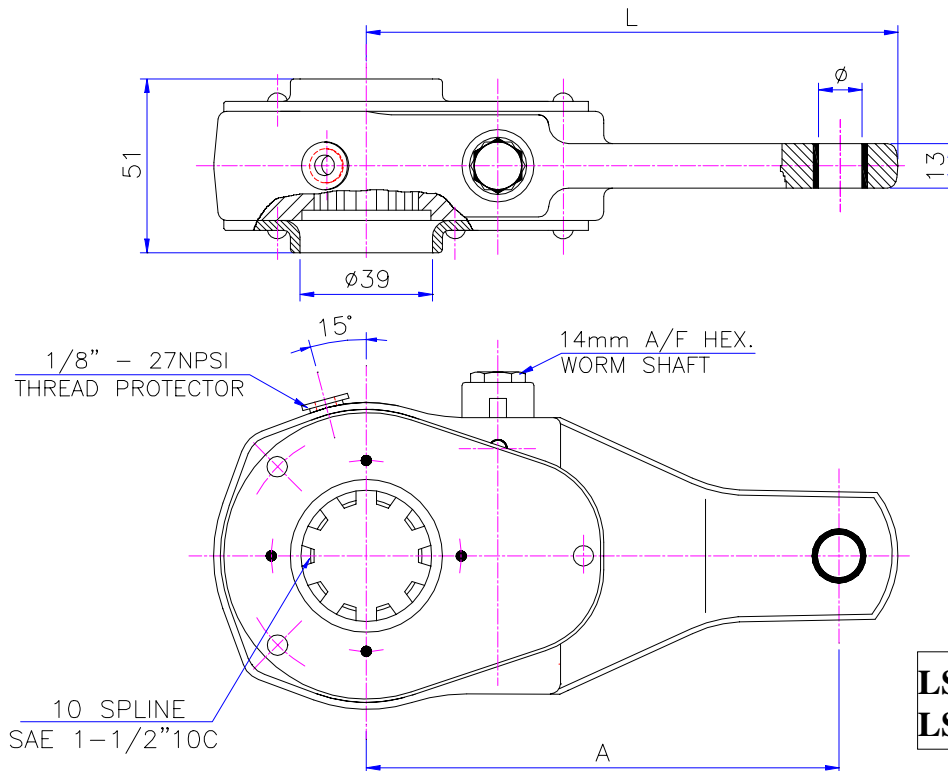
OTHERS - 17 SERIES



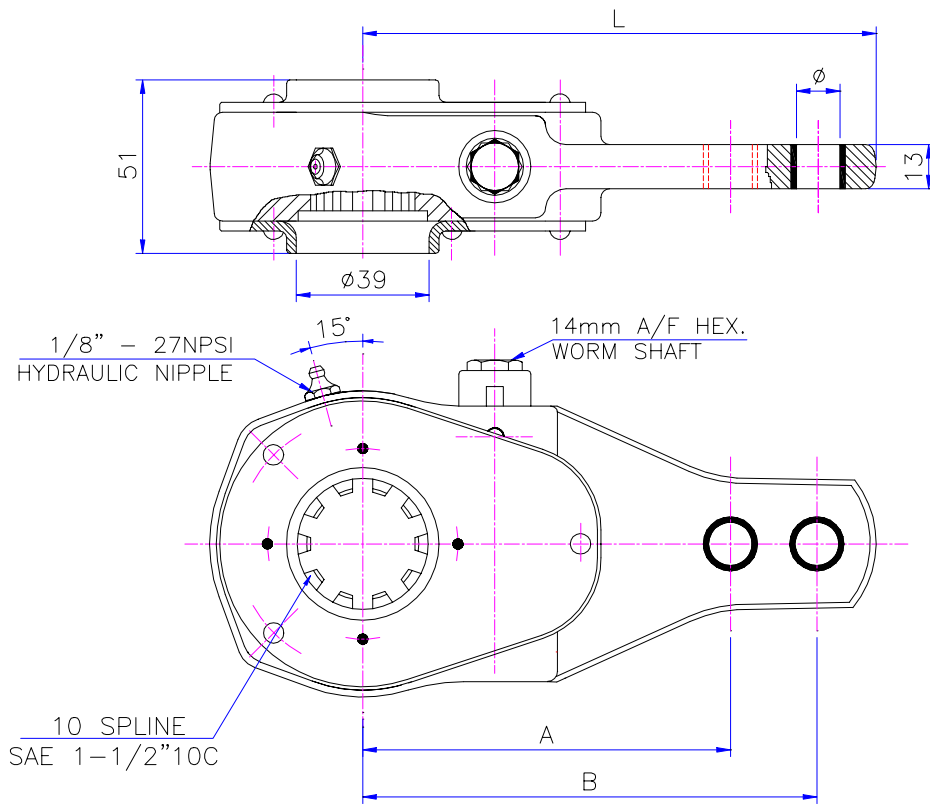




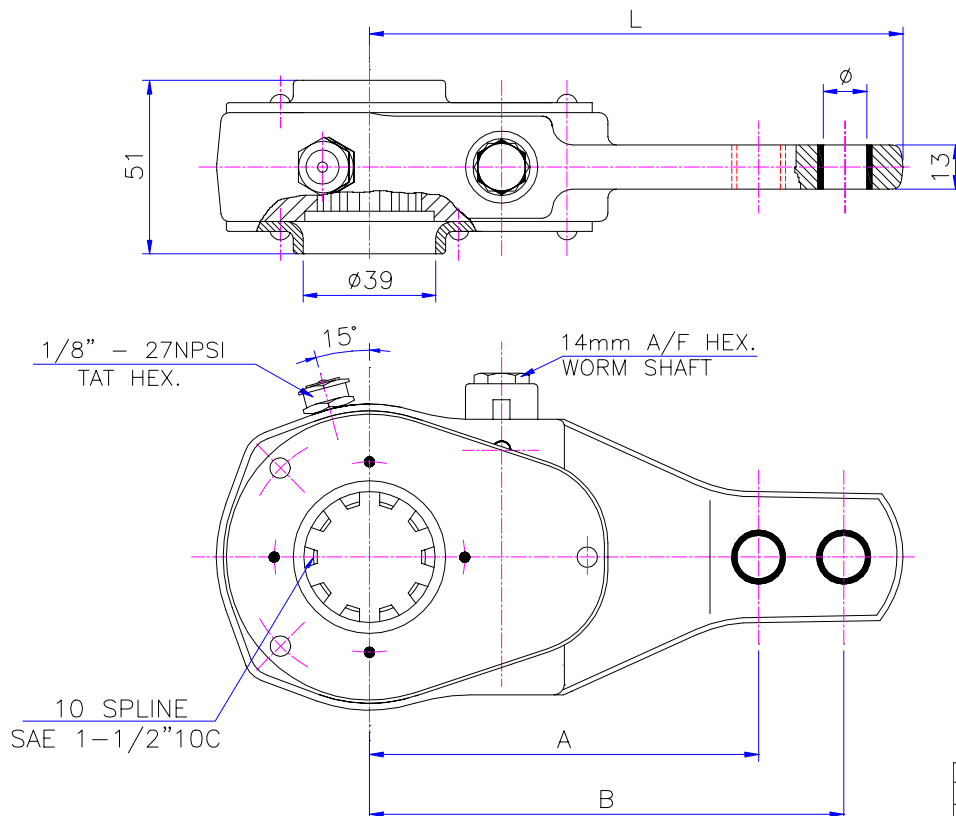
LSA 17-24
LSA 17-25



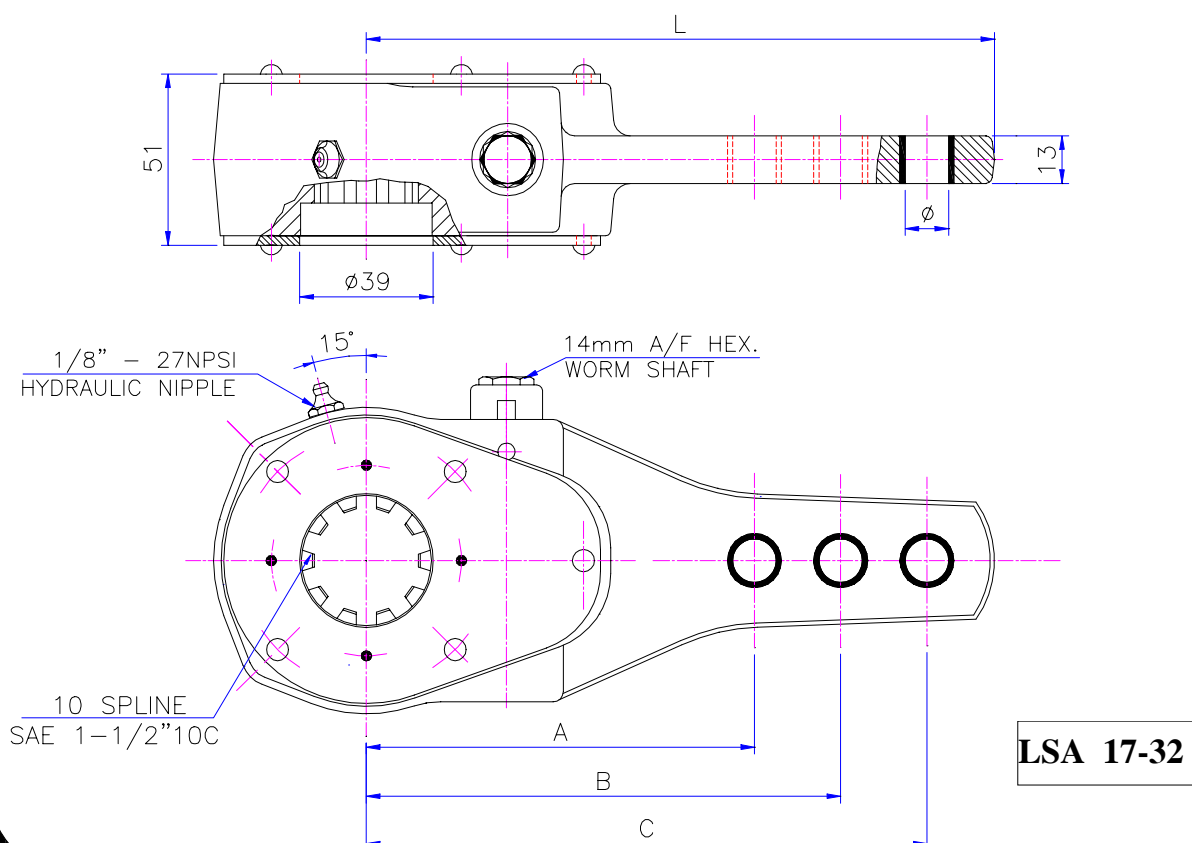
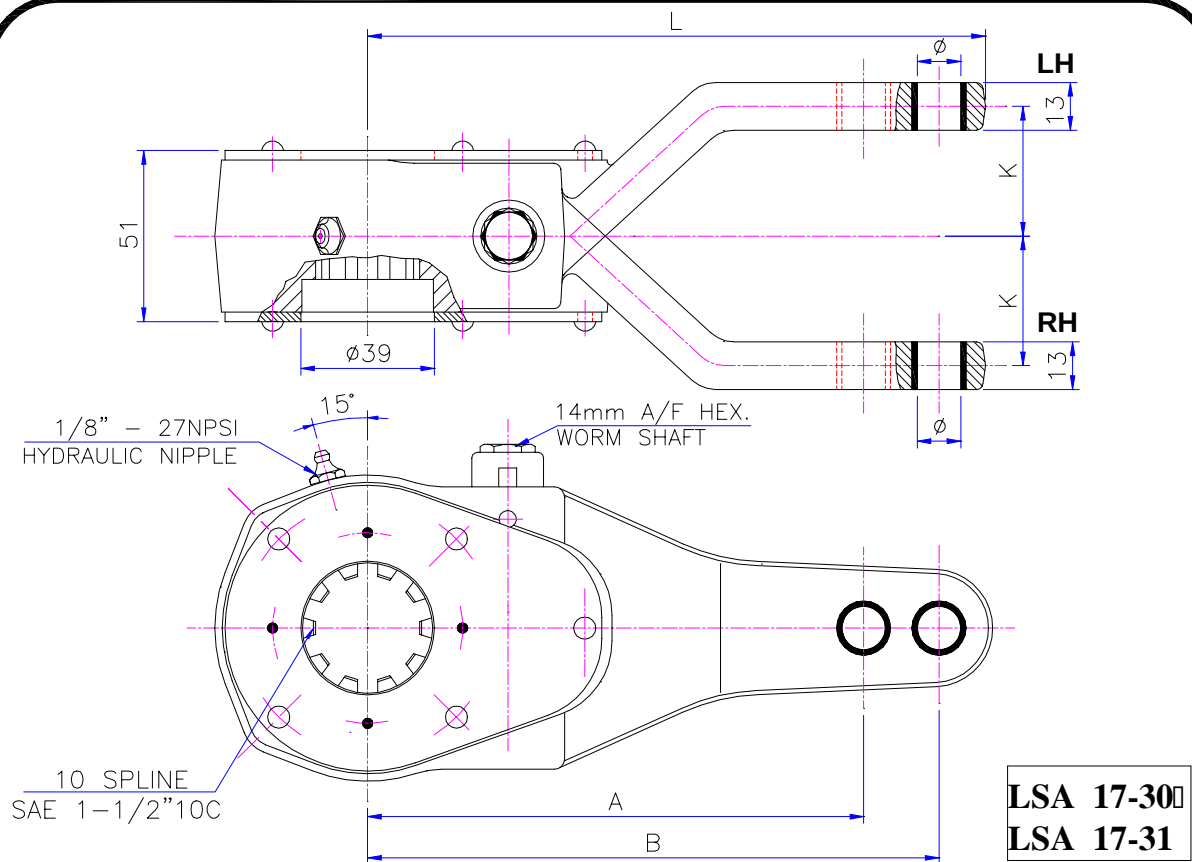
LSA 17-26
LSA 17-27



LSA 17-28



LSA 17-29





Technical drawing of a worm gear assembly, showing two views: a side view (top) and a front view (bottom).

Side View (Top):

- Overall length: L
- Overall height: 51
- Worm shaft diameter: $\phi 39$
- Worm shaft end view: RH (Right Hand)
- Worm shaft end view diameter: ϕ
- Worm shaft end view length: 13
- Worm shaft end view offset: K

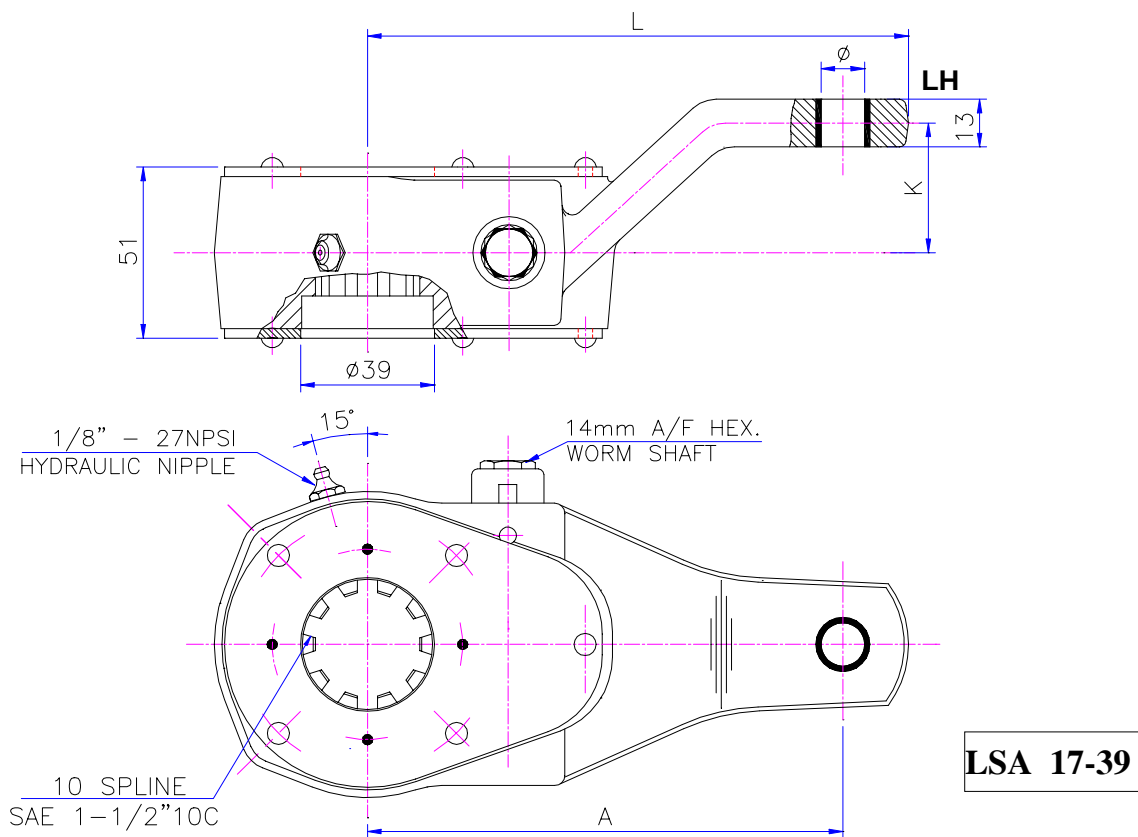
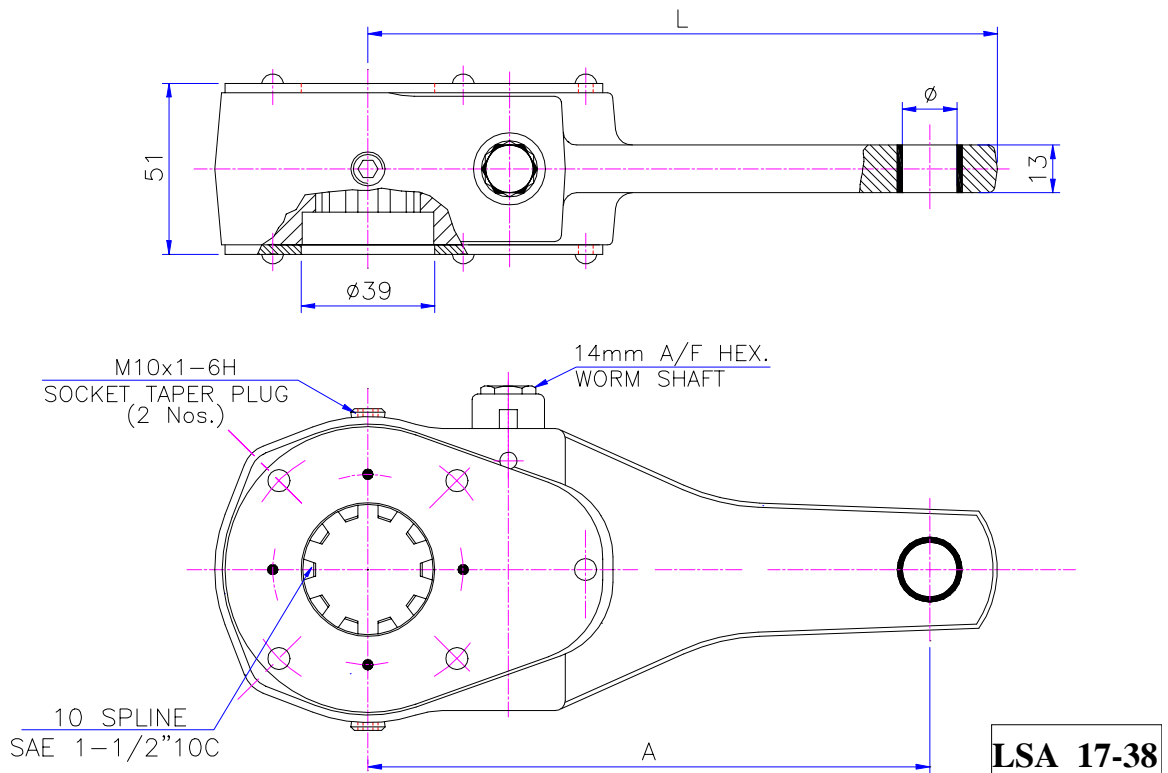
Front View (Bottom):

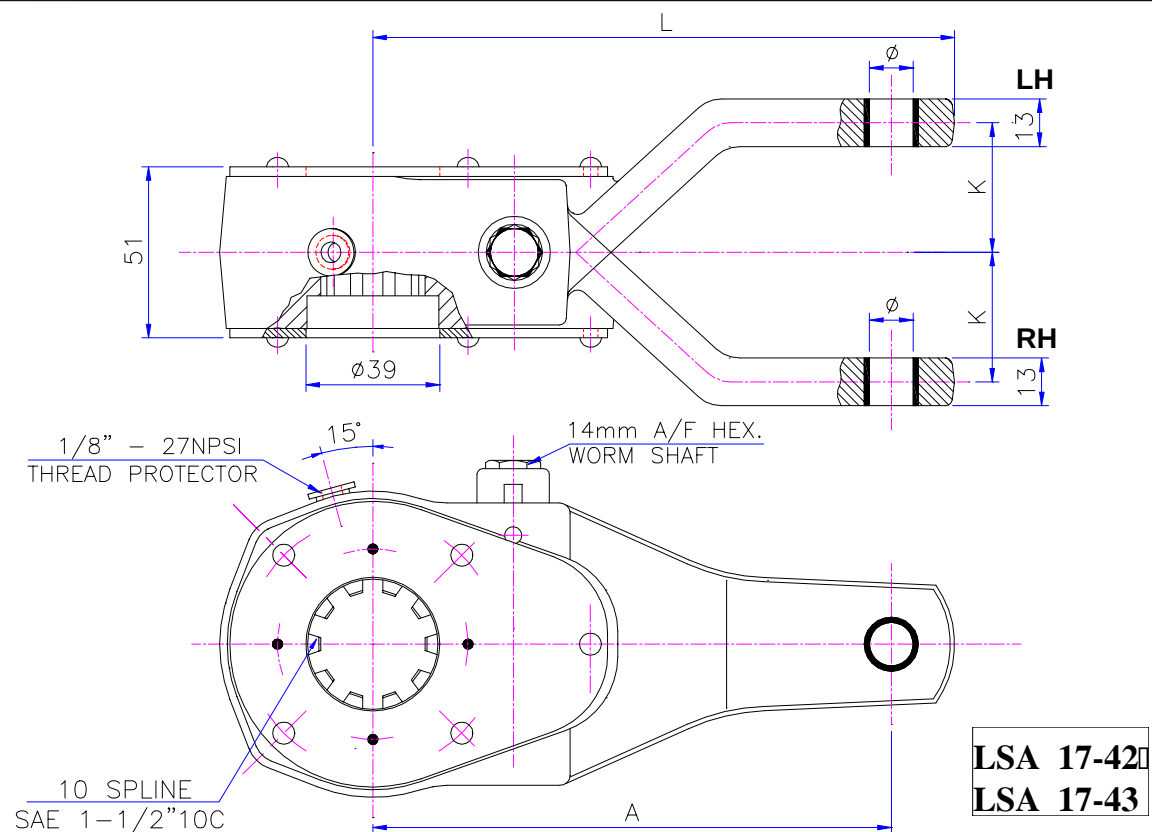
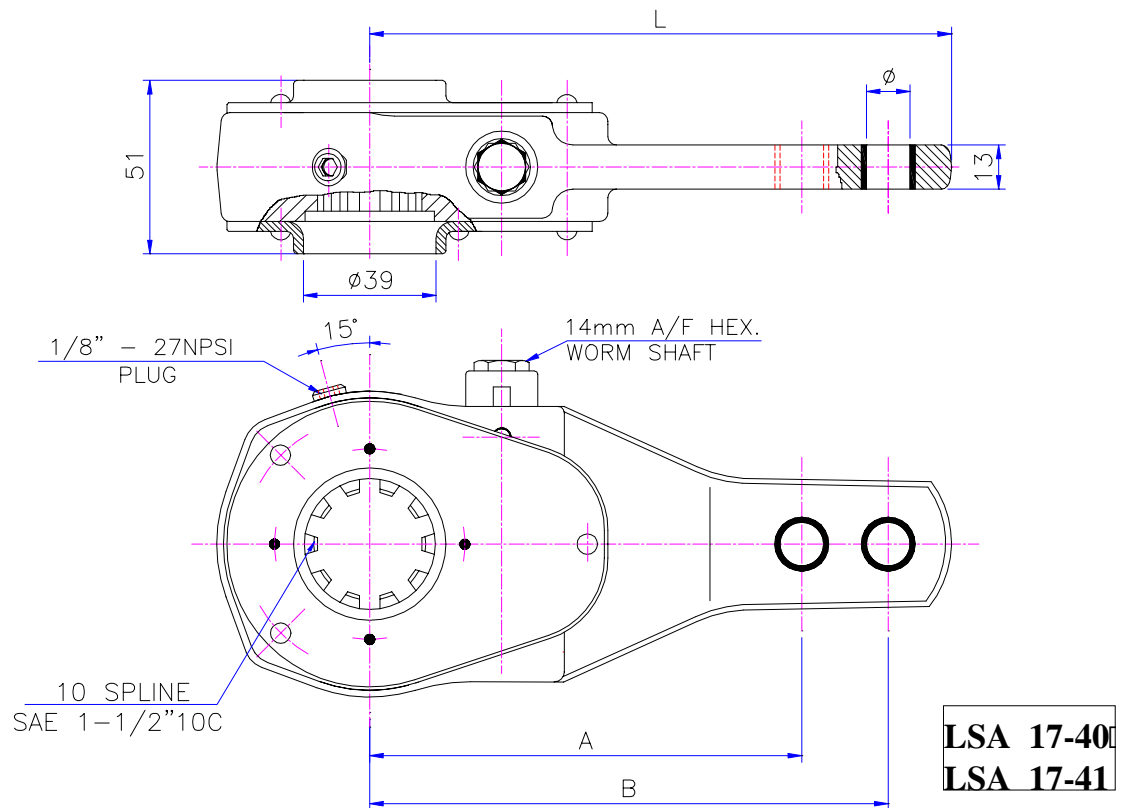
- Overall width: A
- Worm gear teeth: 10 SPLINE
- Worm gear teeth specification: SAE 1-1/2"10C
- Worm gear teeth angle: 15°
- Worm gear teeth material: 14mm A/F HEX. WORM SHAFT
- Worm gear teeth thread: 1/8" - 27NPSI THREAD PROTECTOR

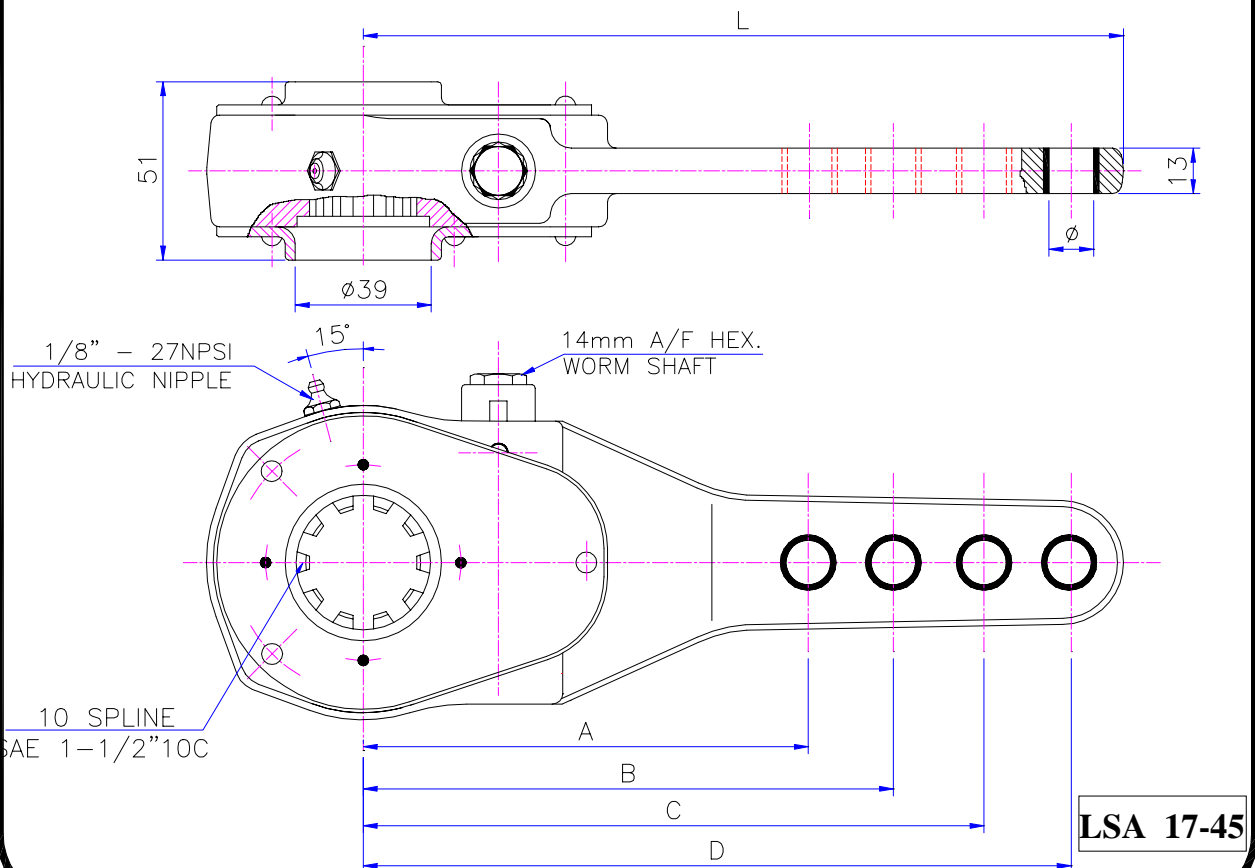
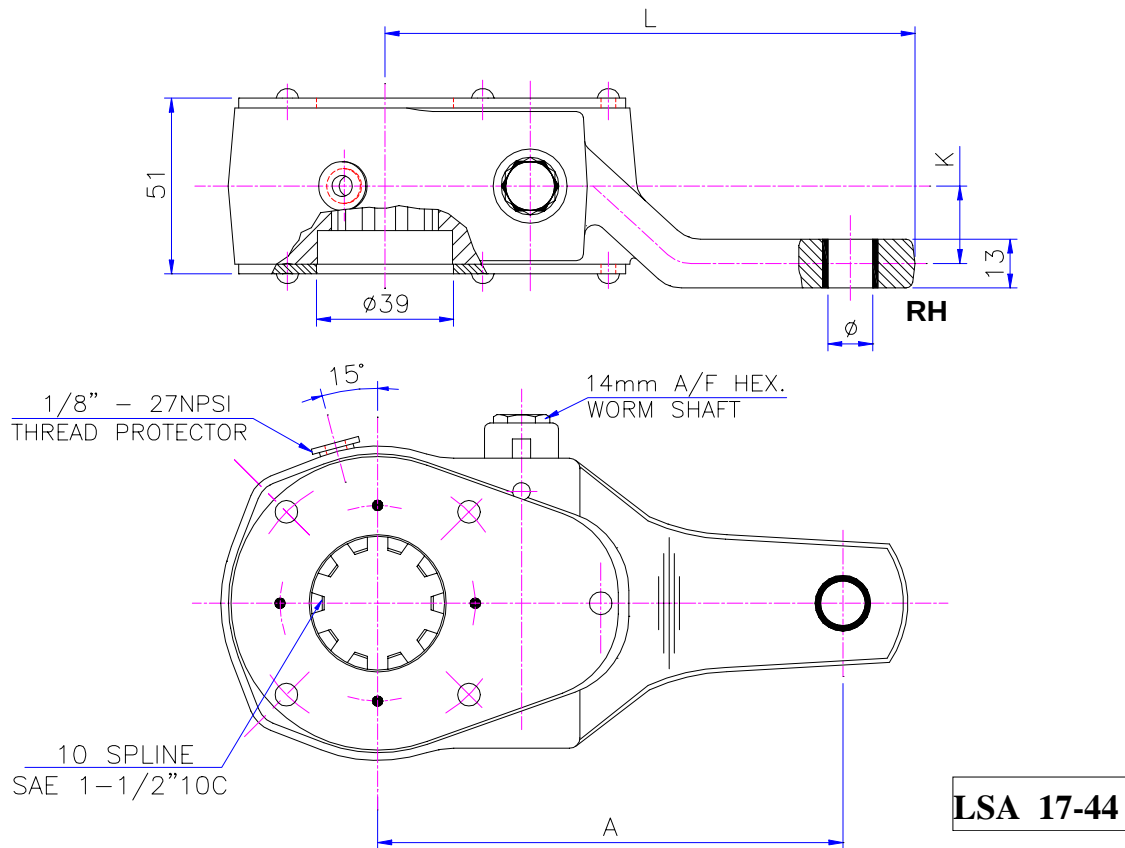
Labels:

- 1/8" - 27NPSI THREAD PROTECTOR
- 14mm A/F HEX. WORM SHAFT
- 10 SPLINE
- SAE 1-1/2"10C
- RH

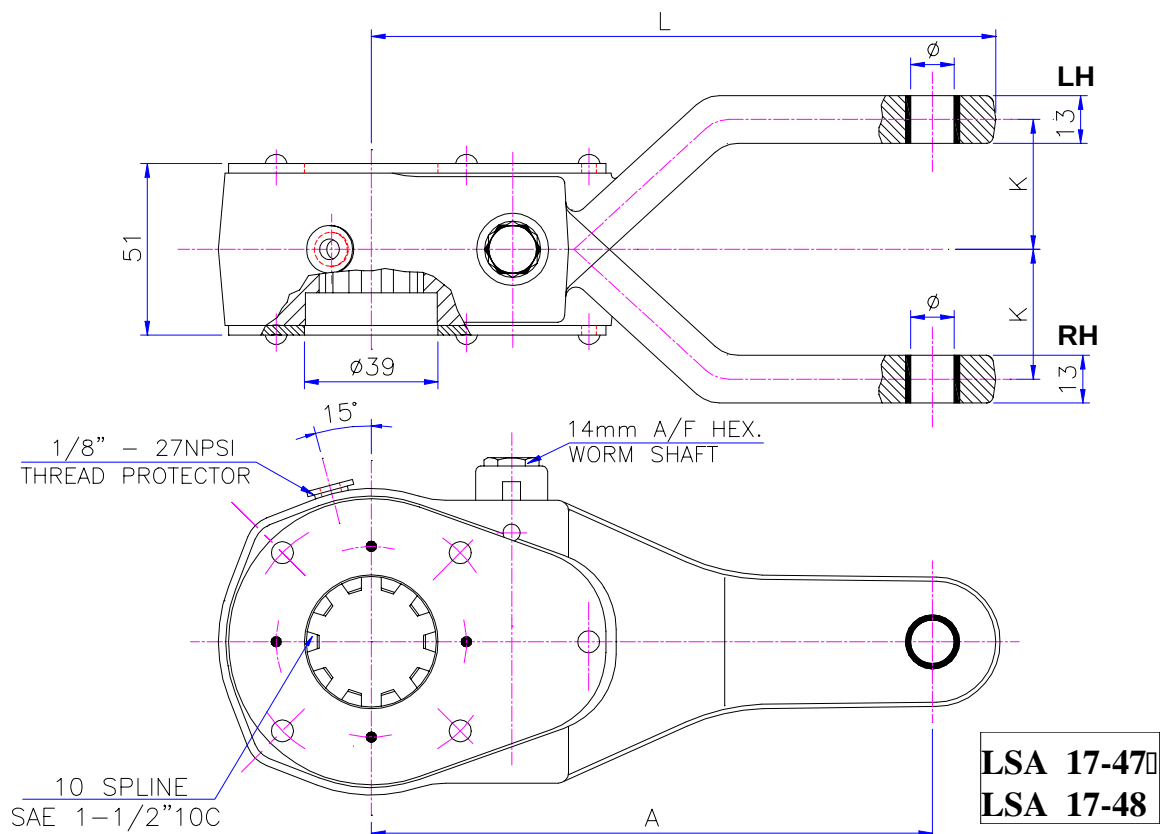
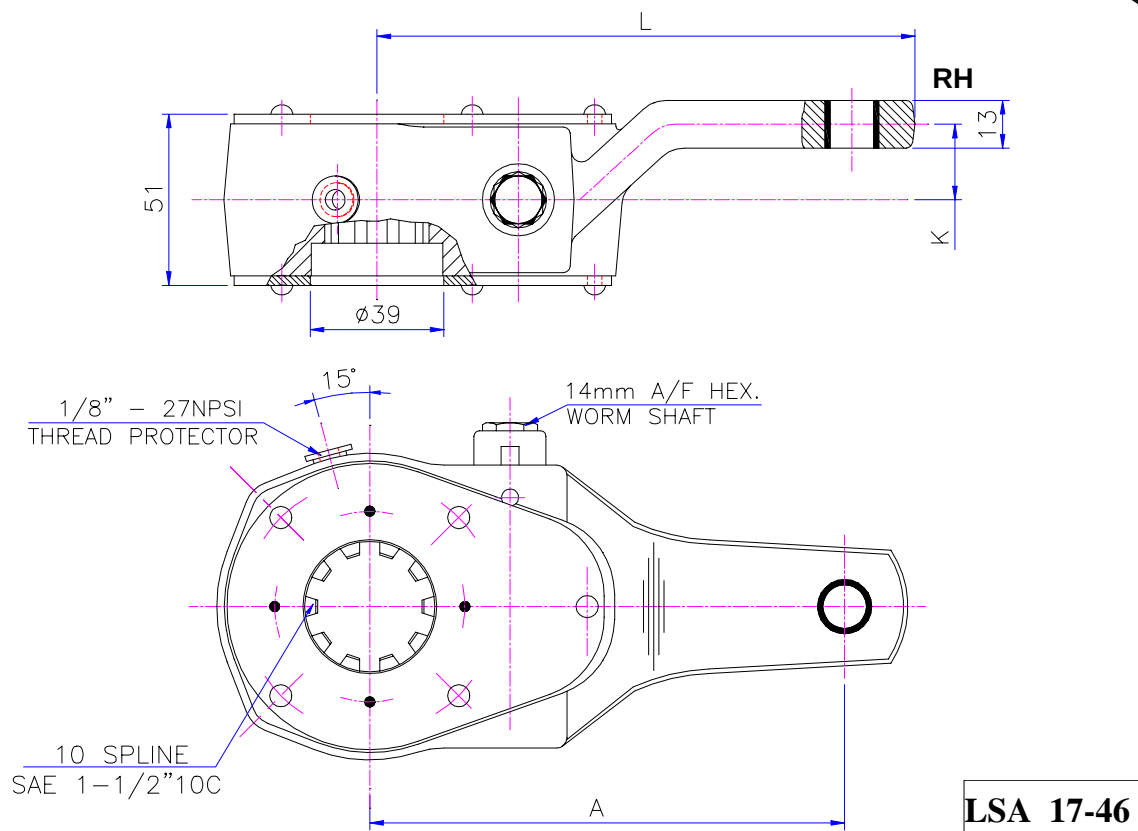
PAGE 93

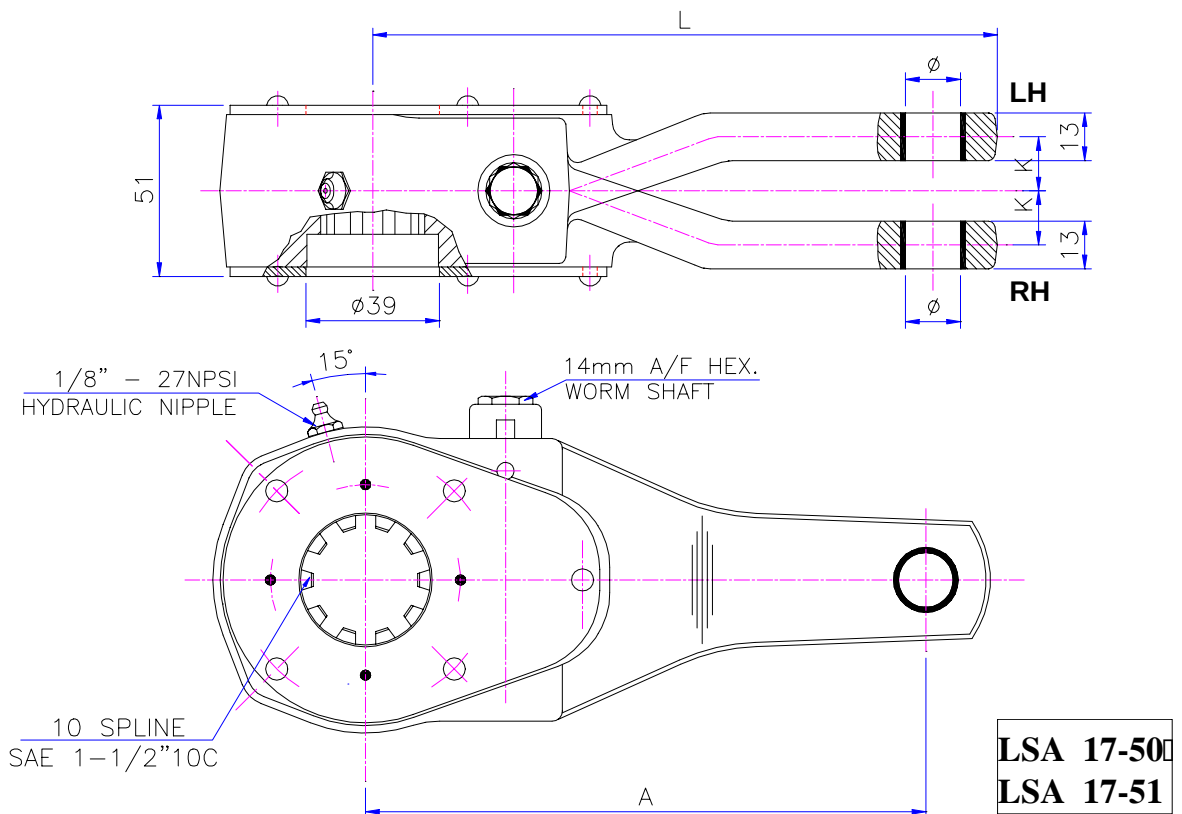
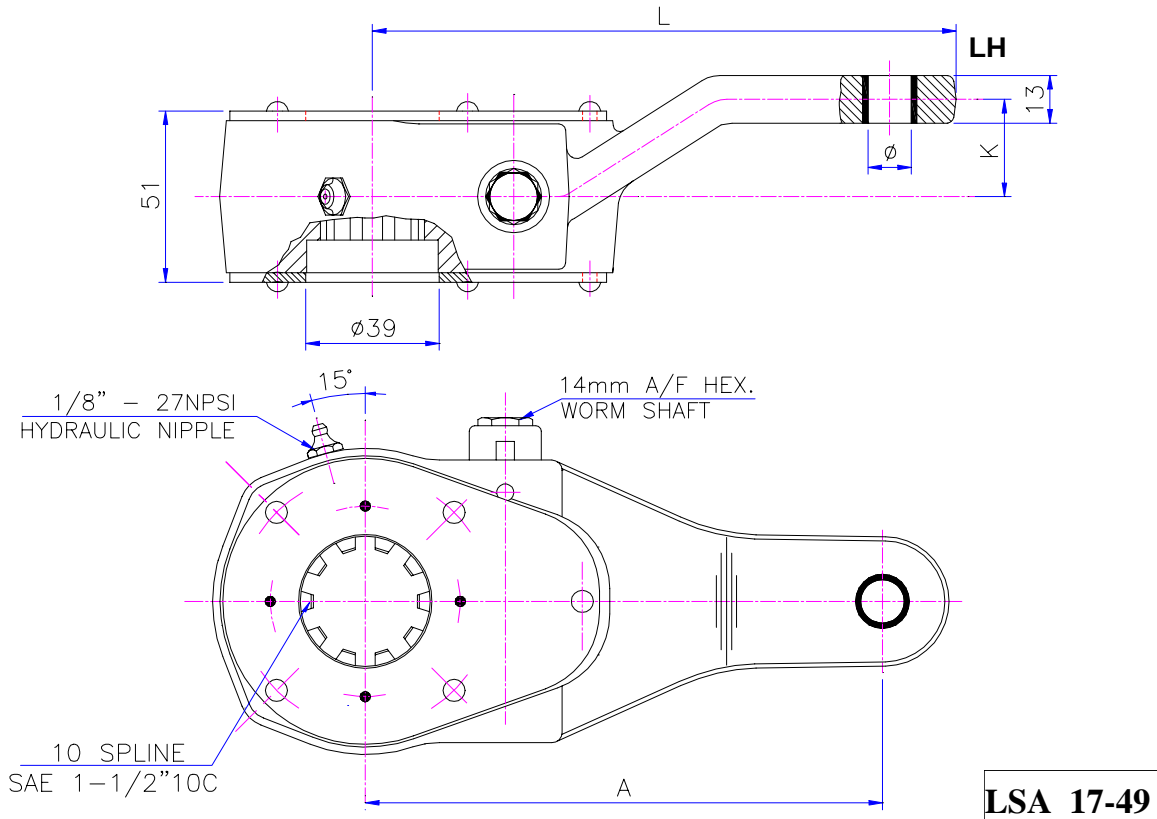


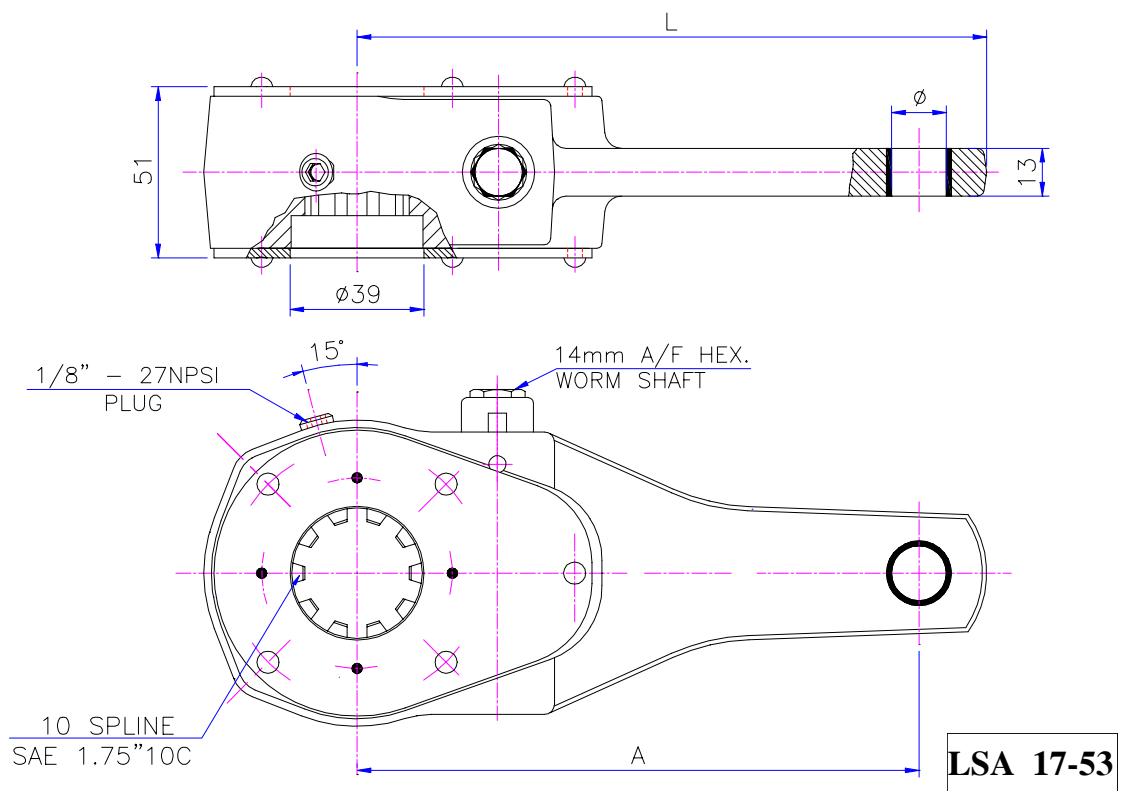
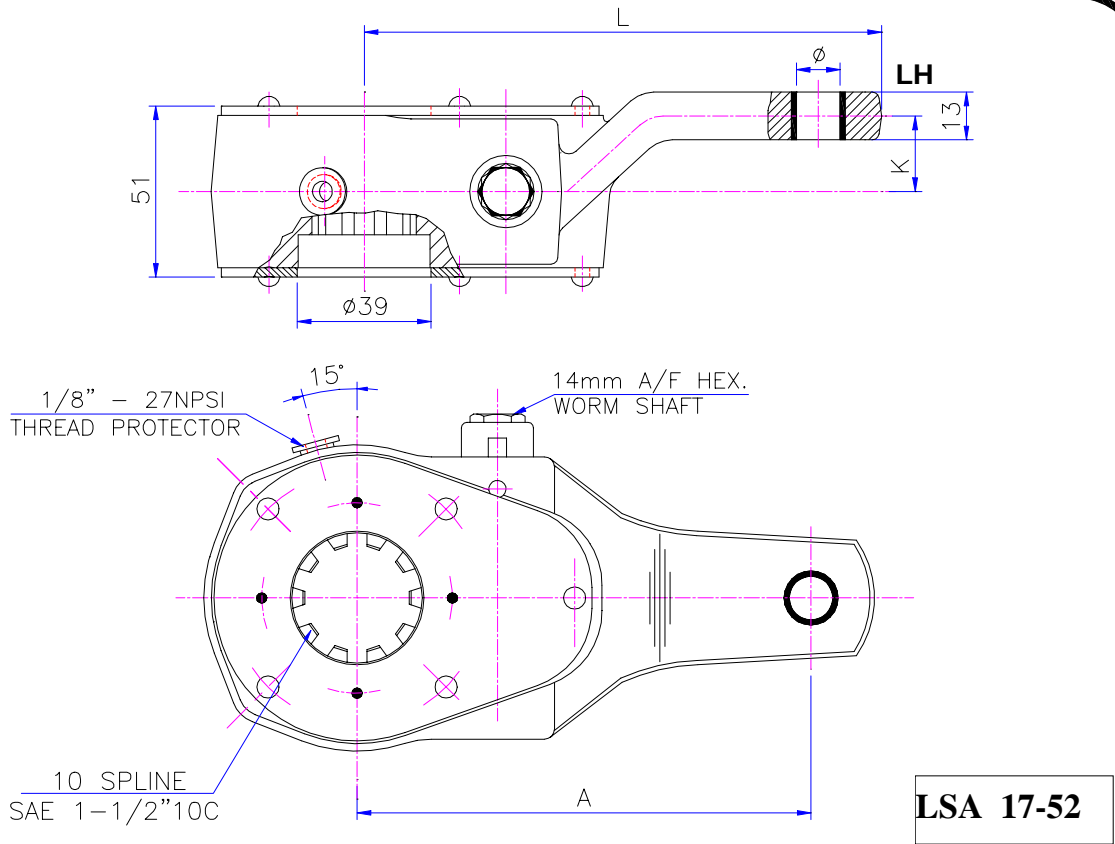


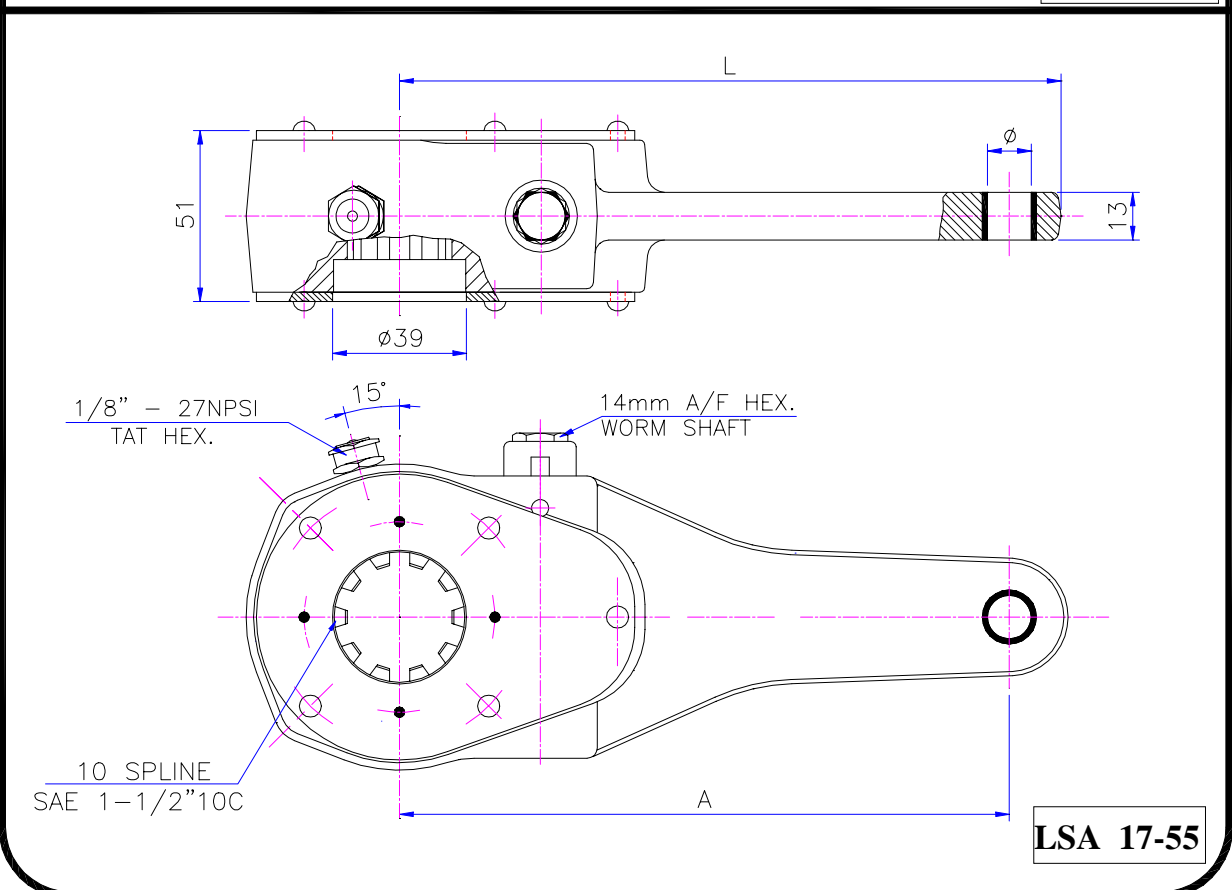
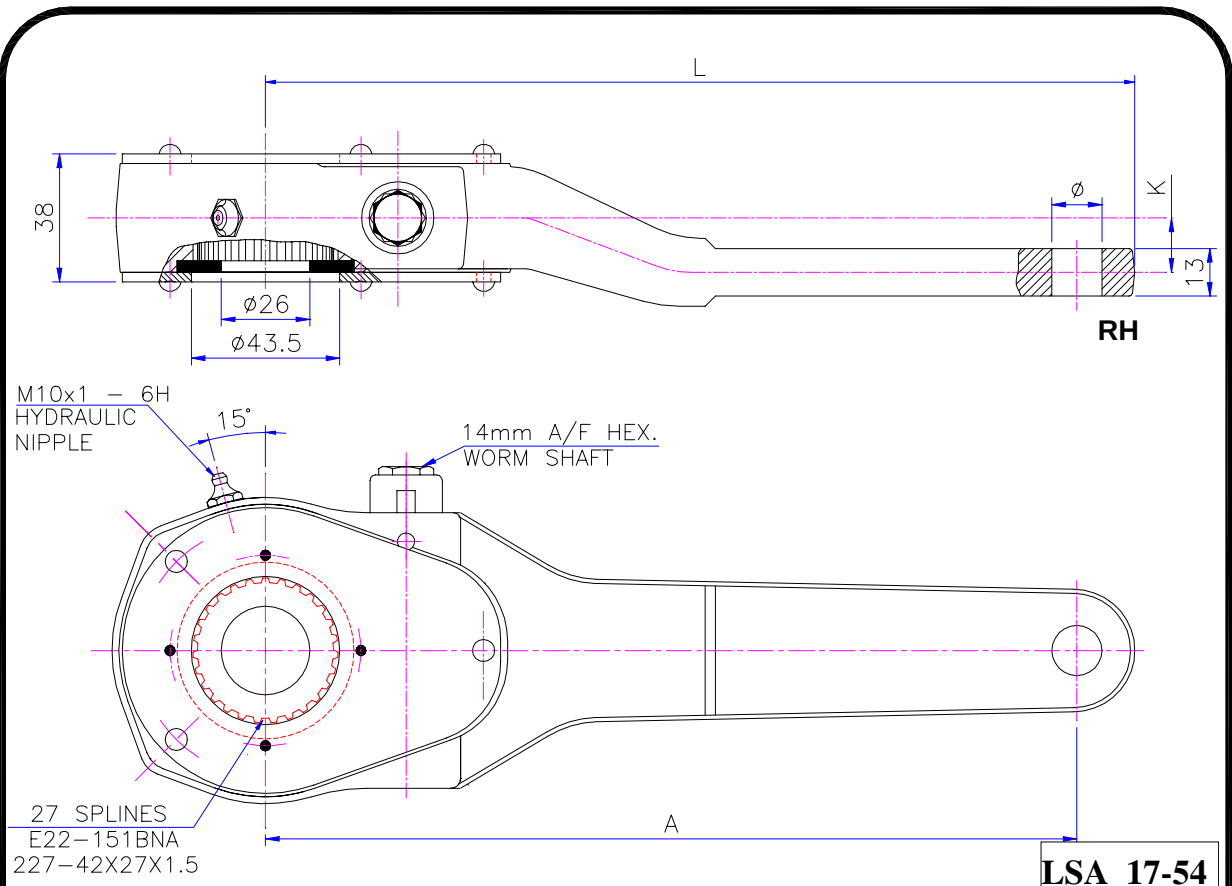


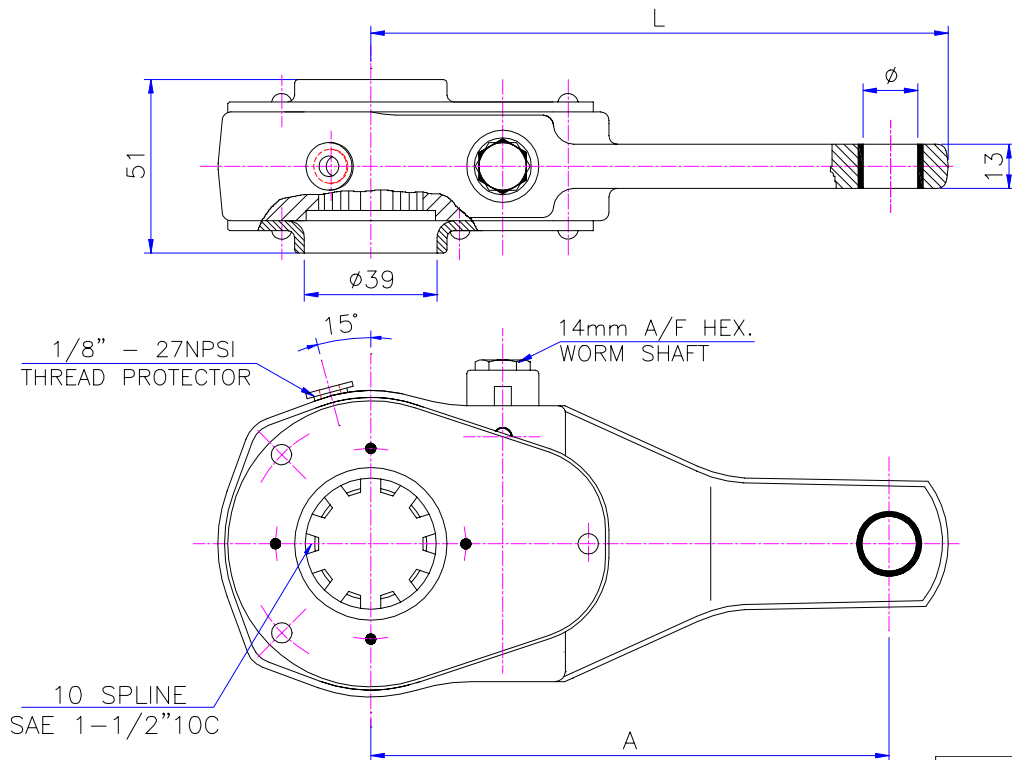
OTHERS - 17 SERIES



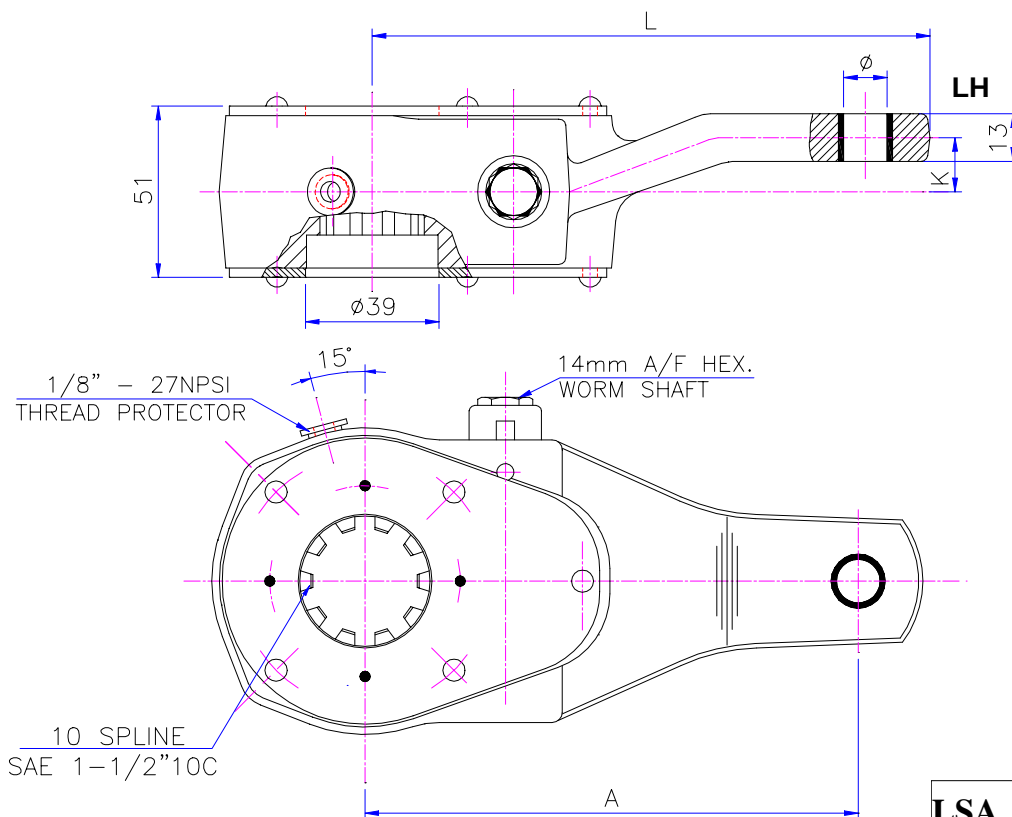




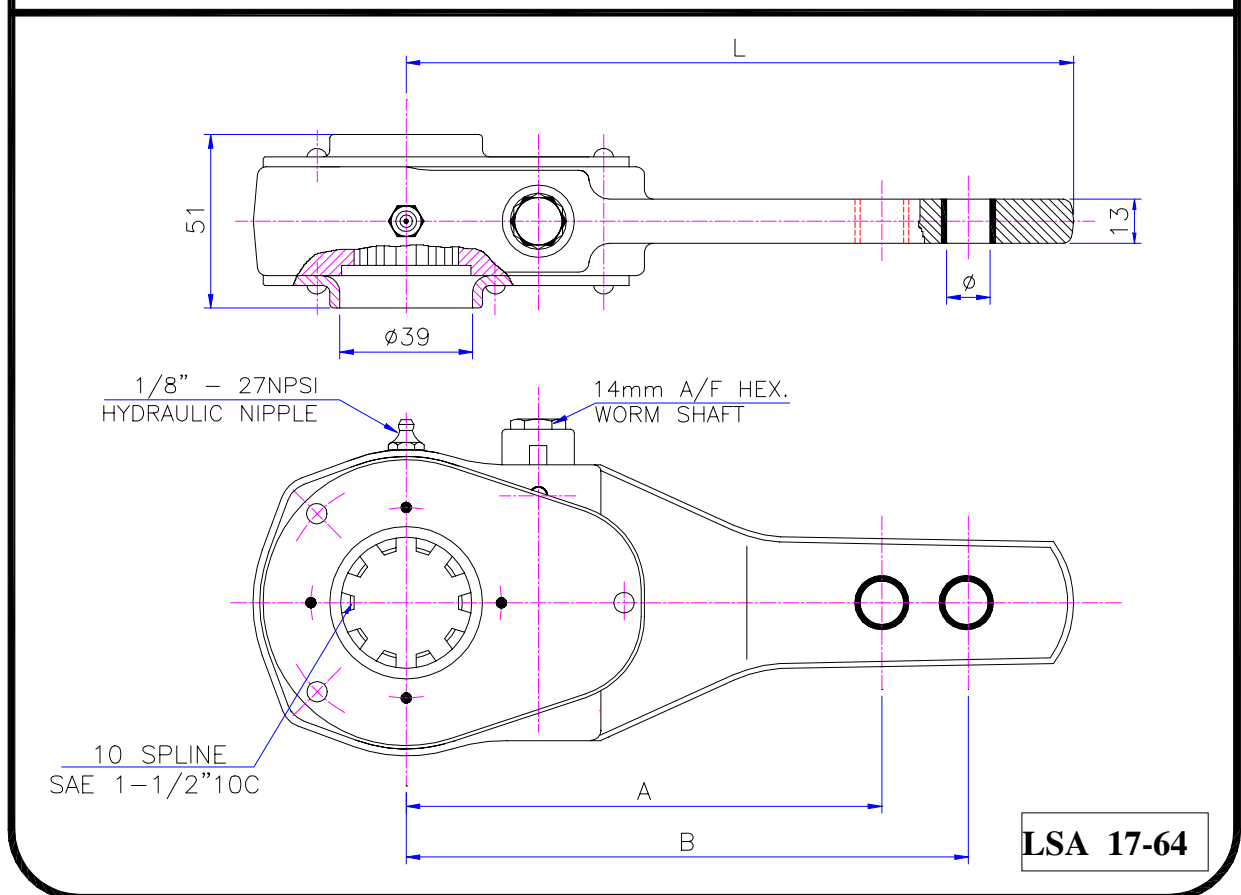
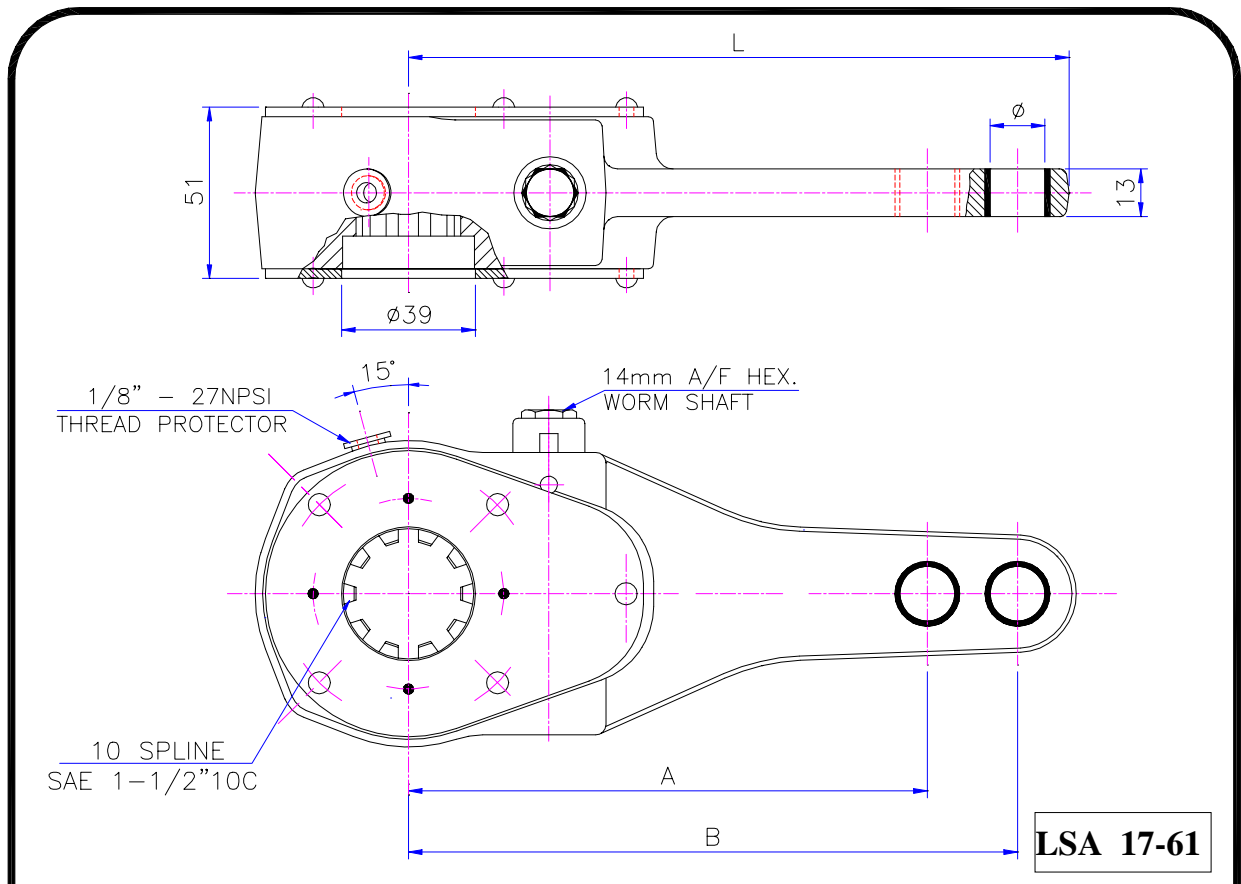


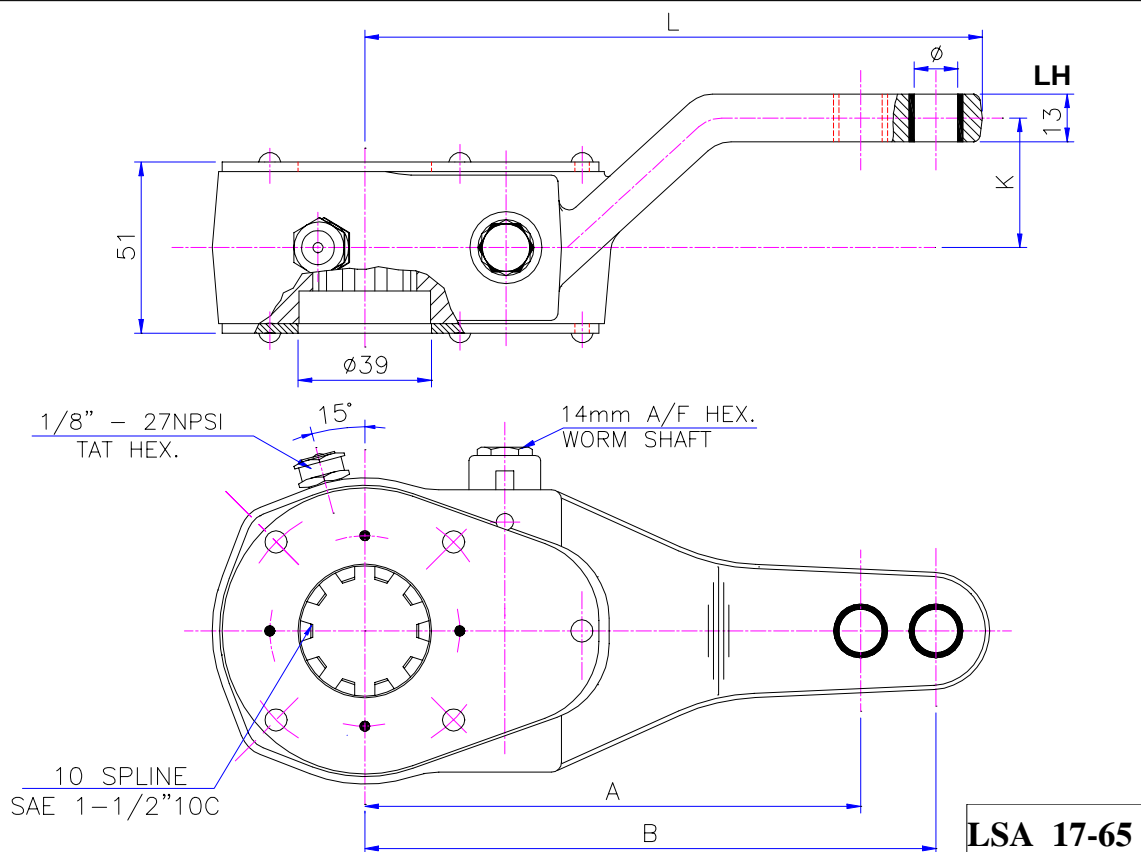
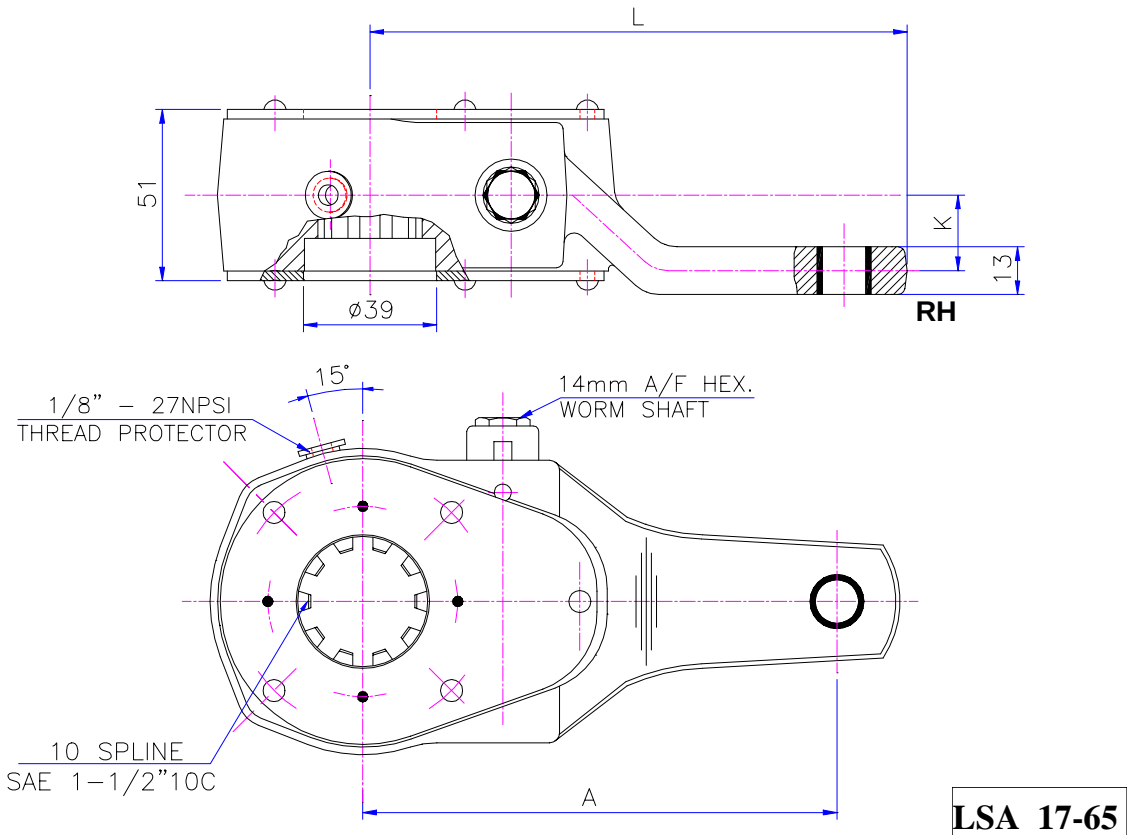


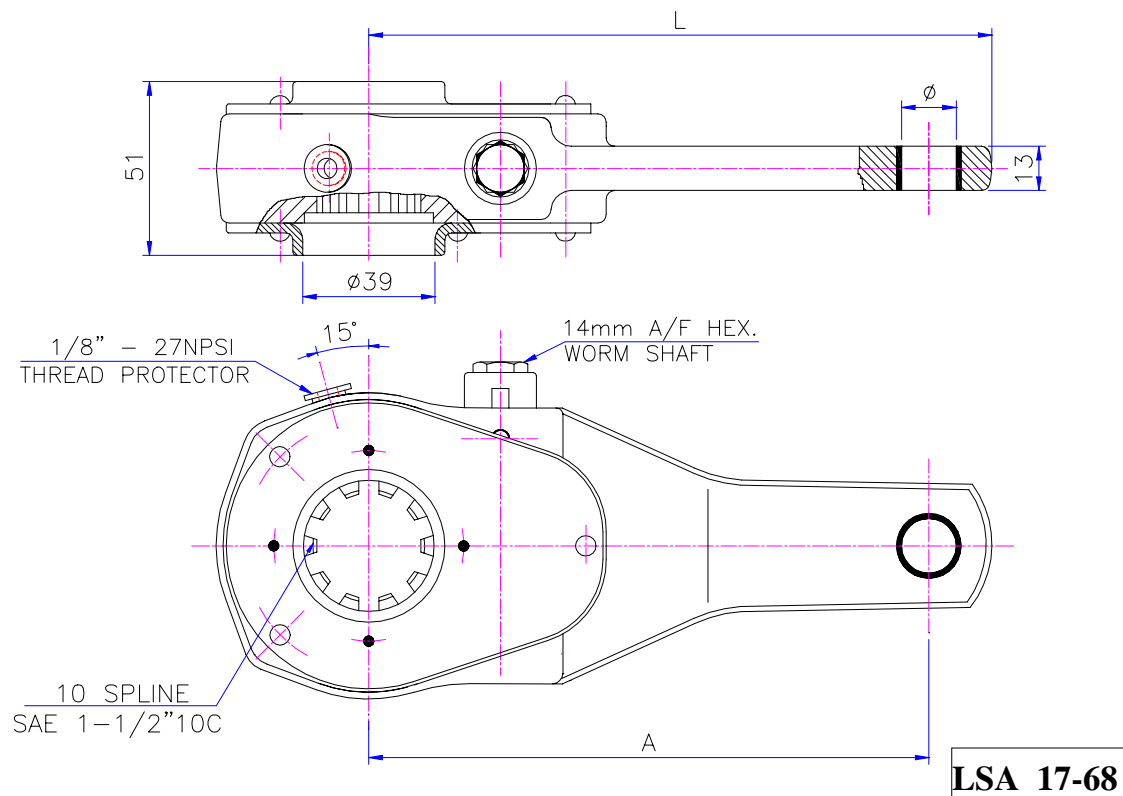
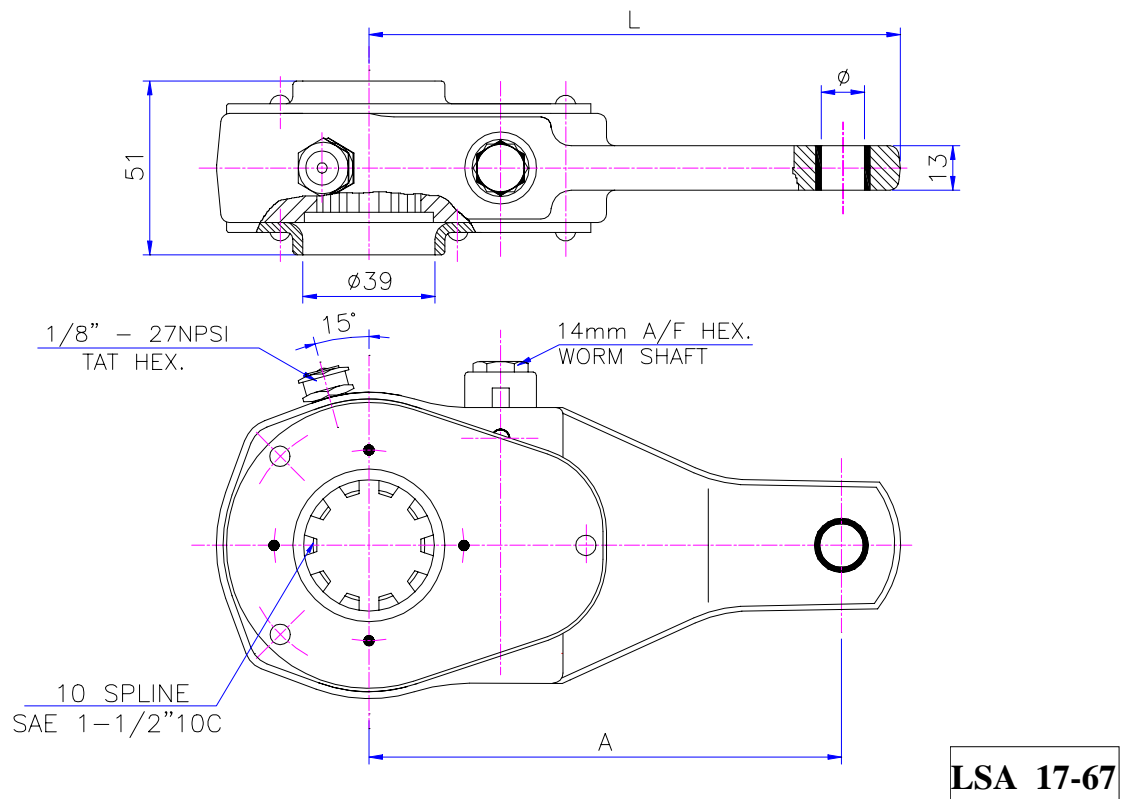
LSA 17-56

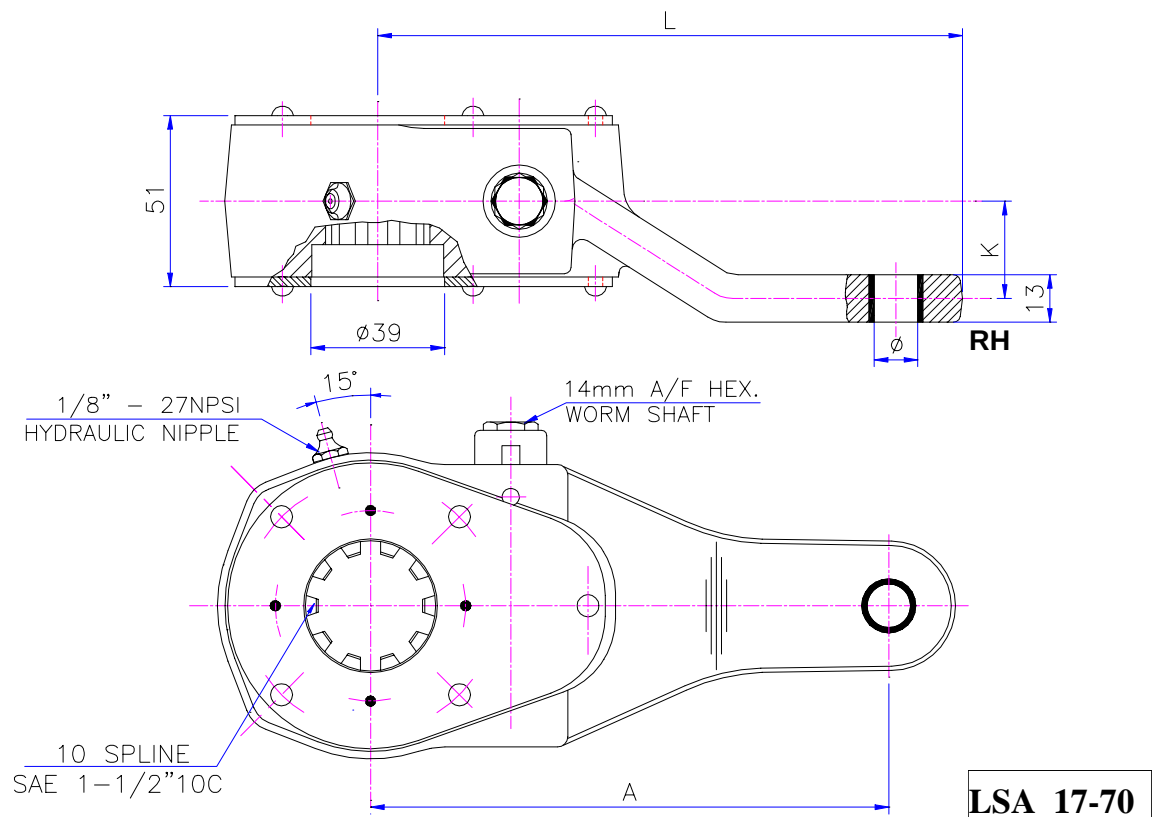
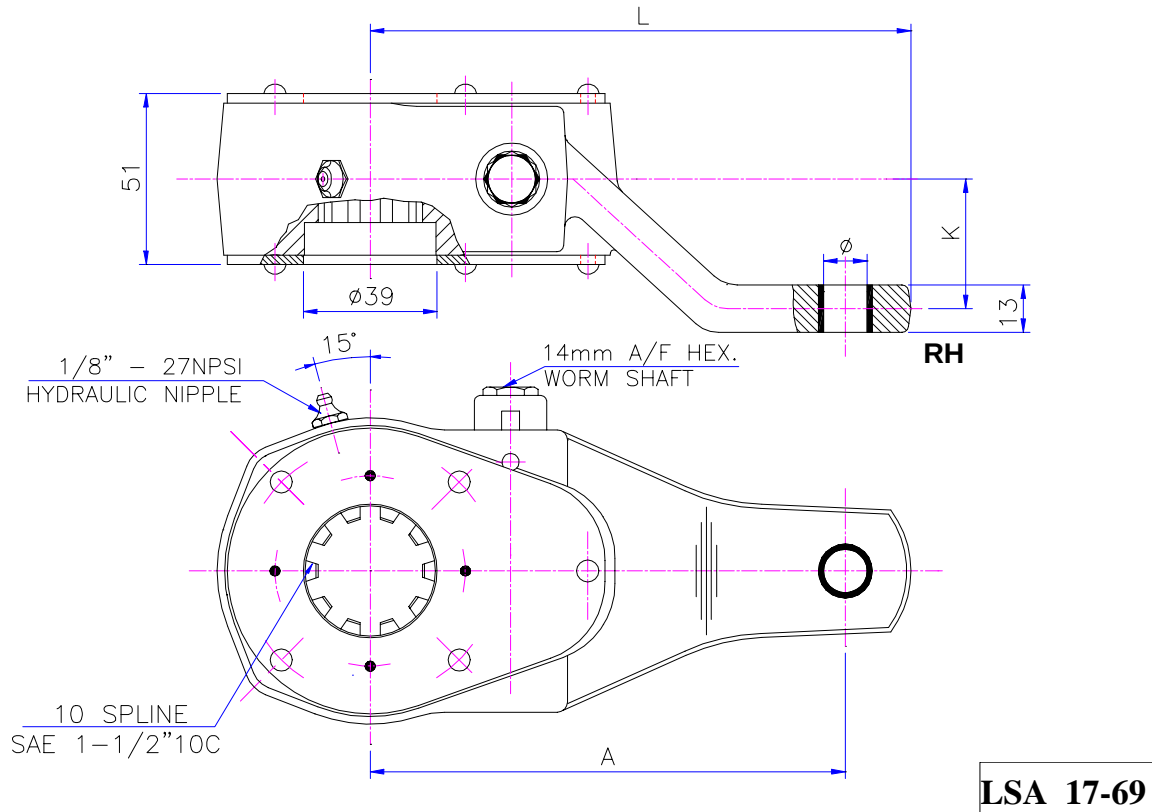


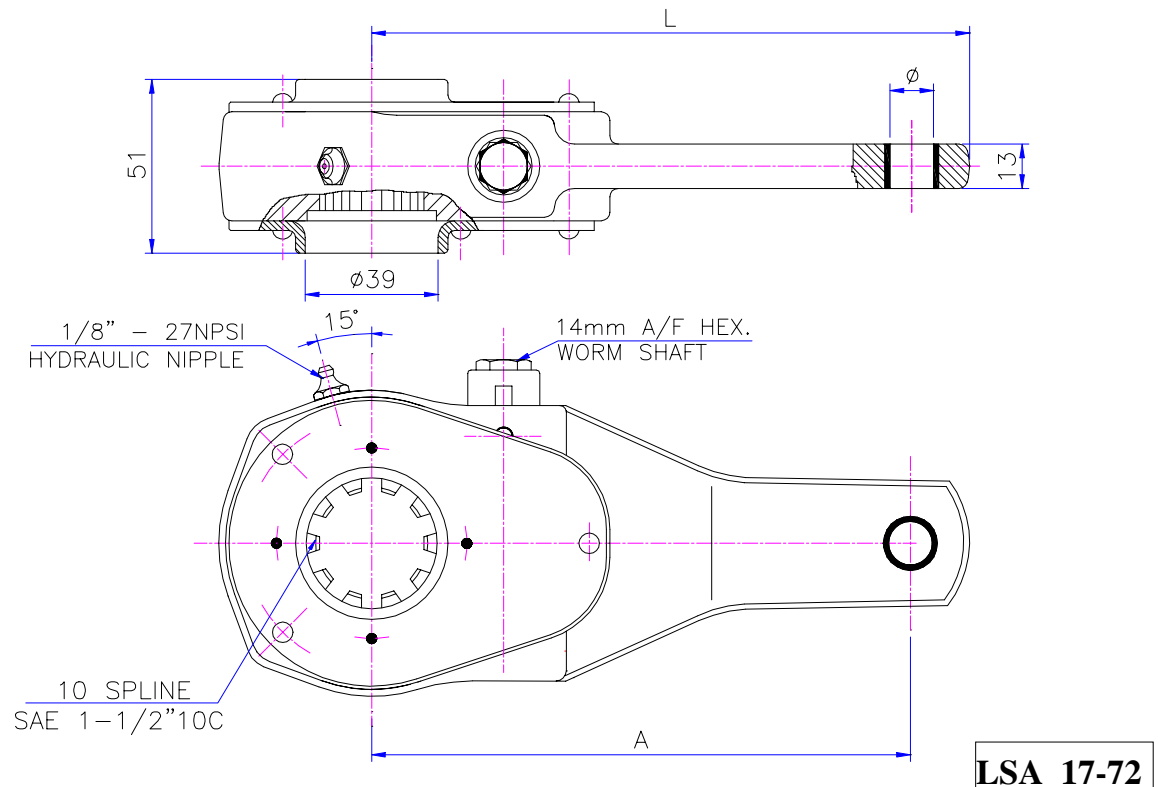
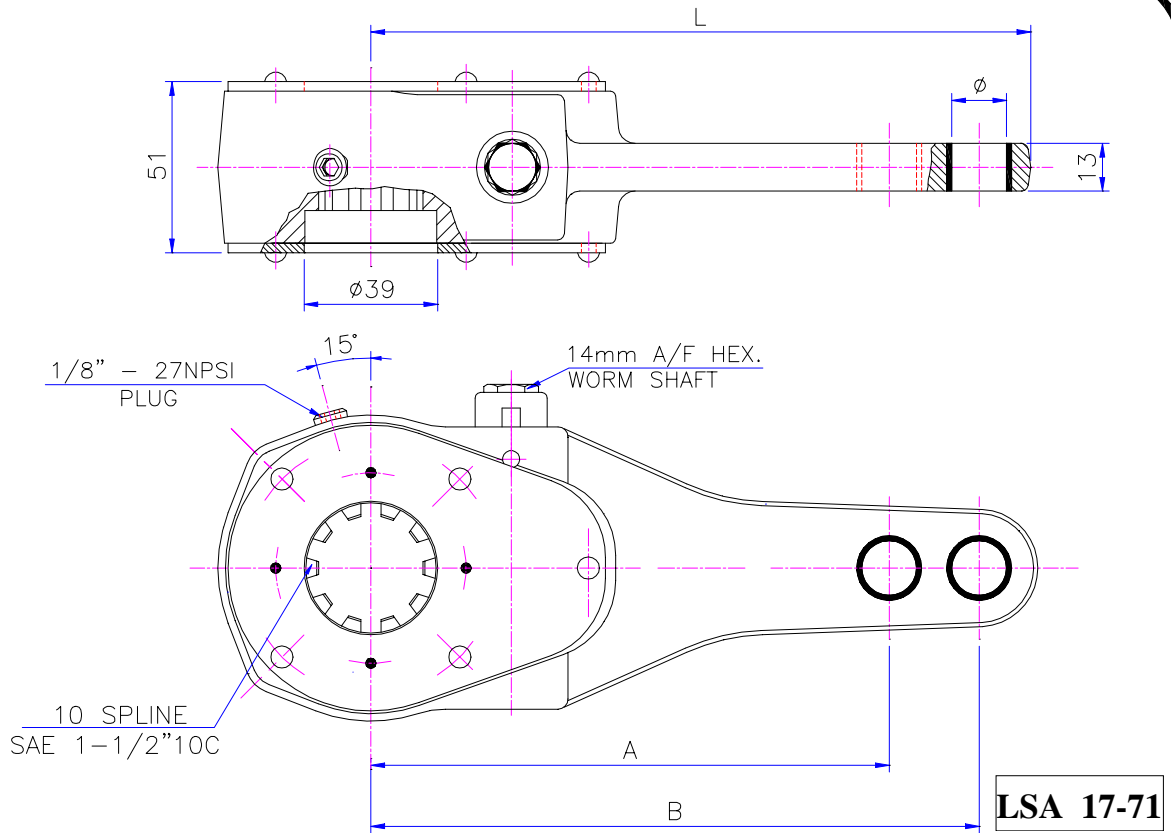
LSA 17-57

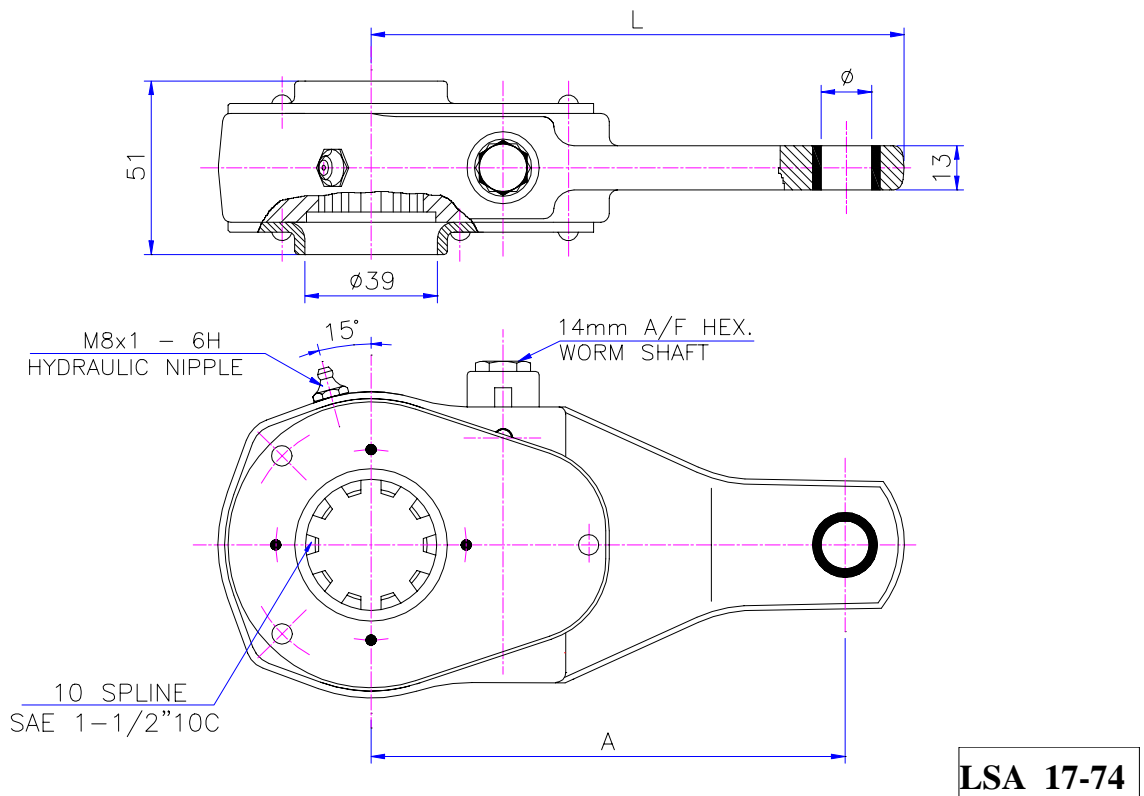
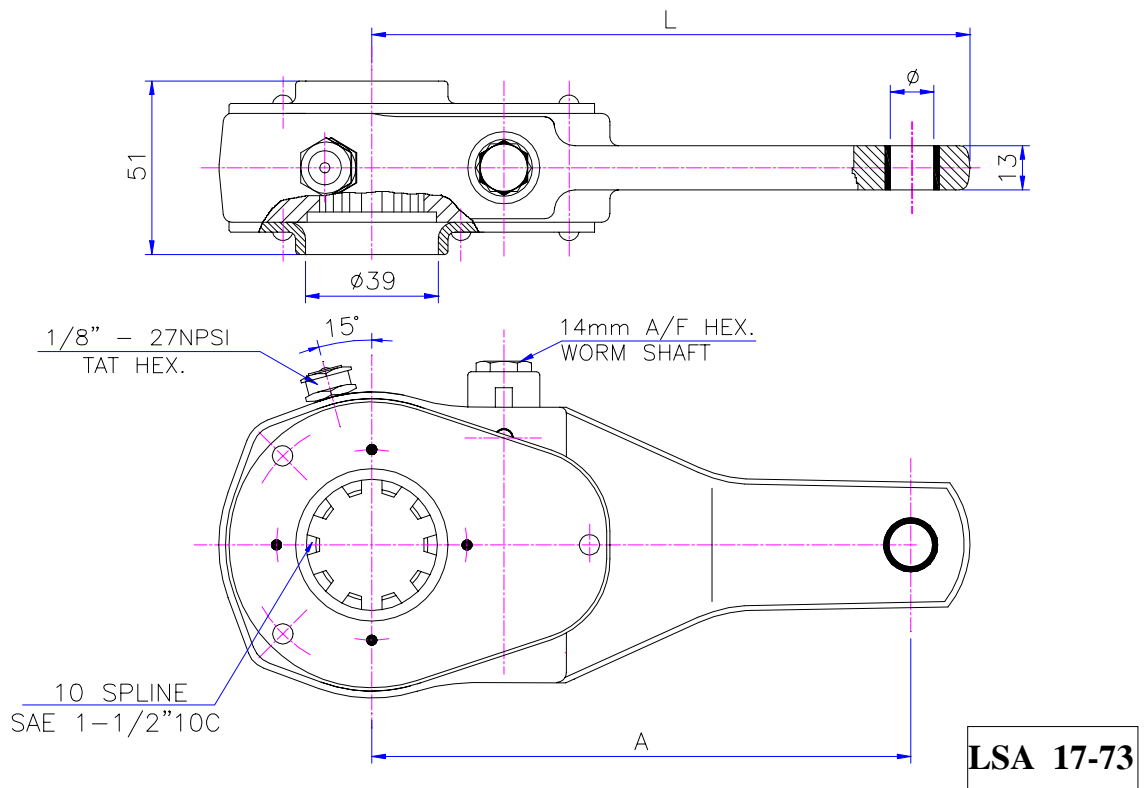


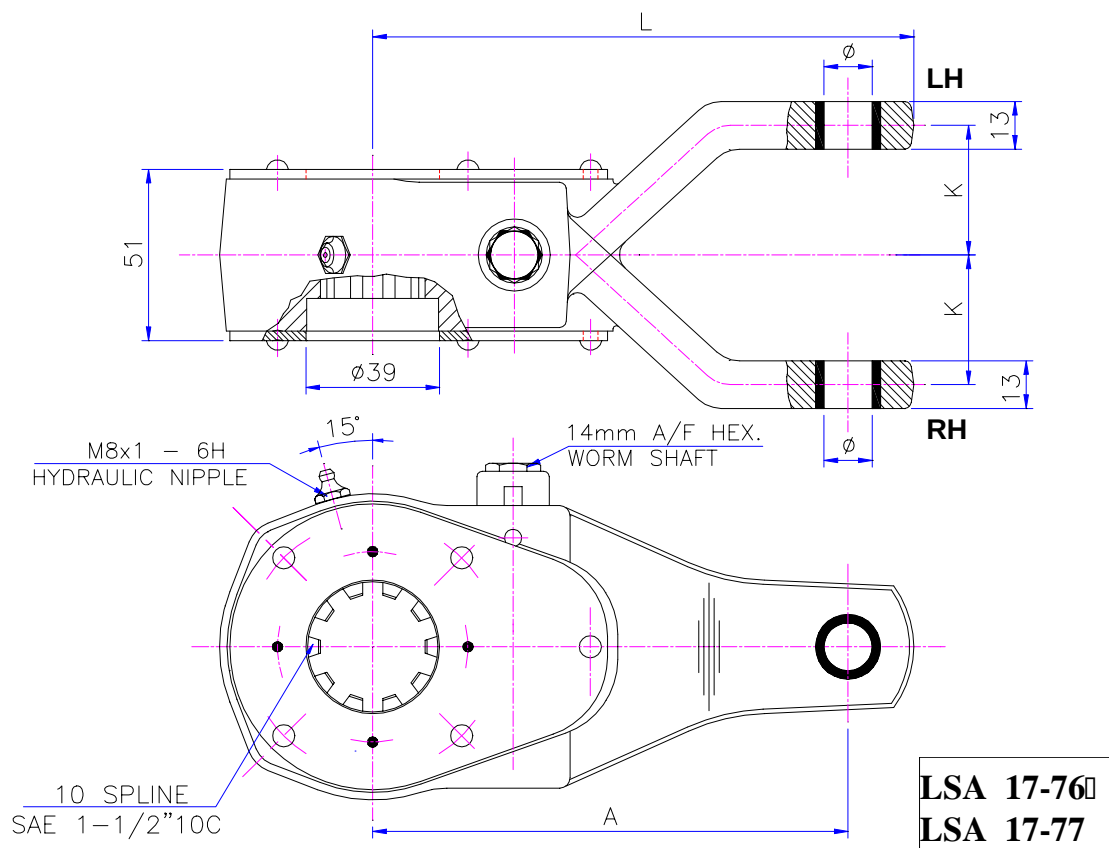
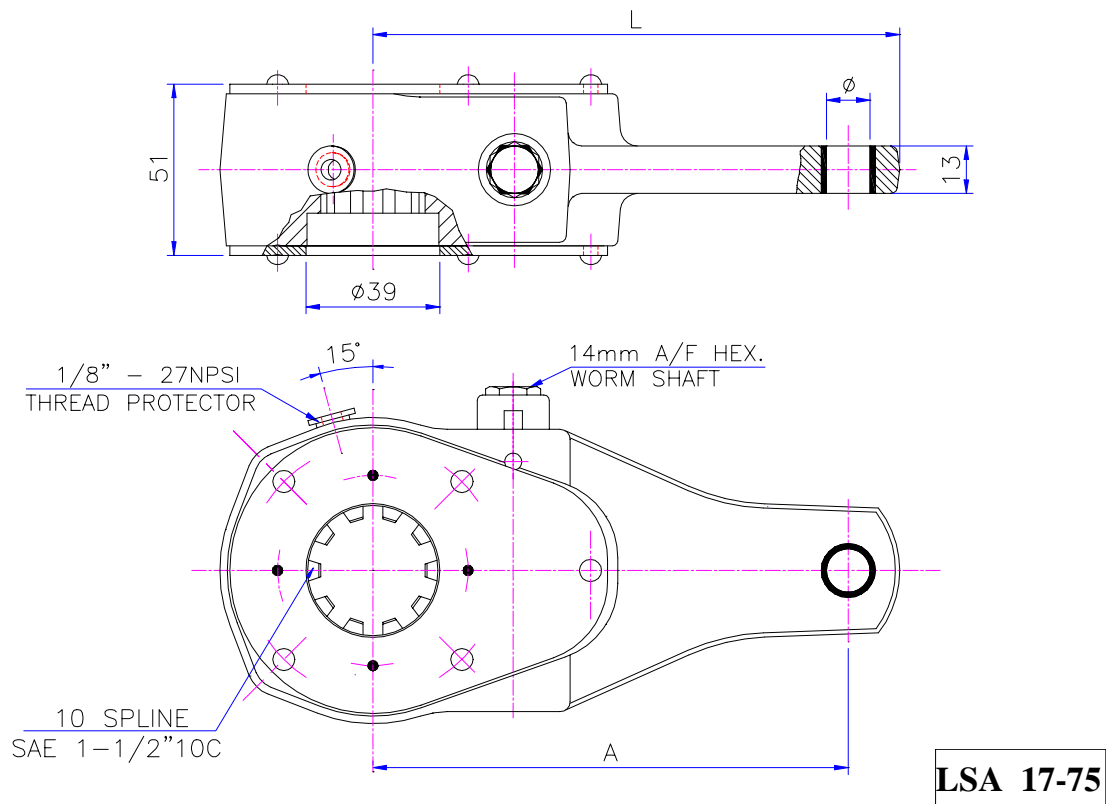


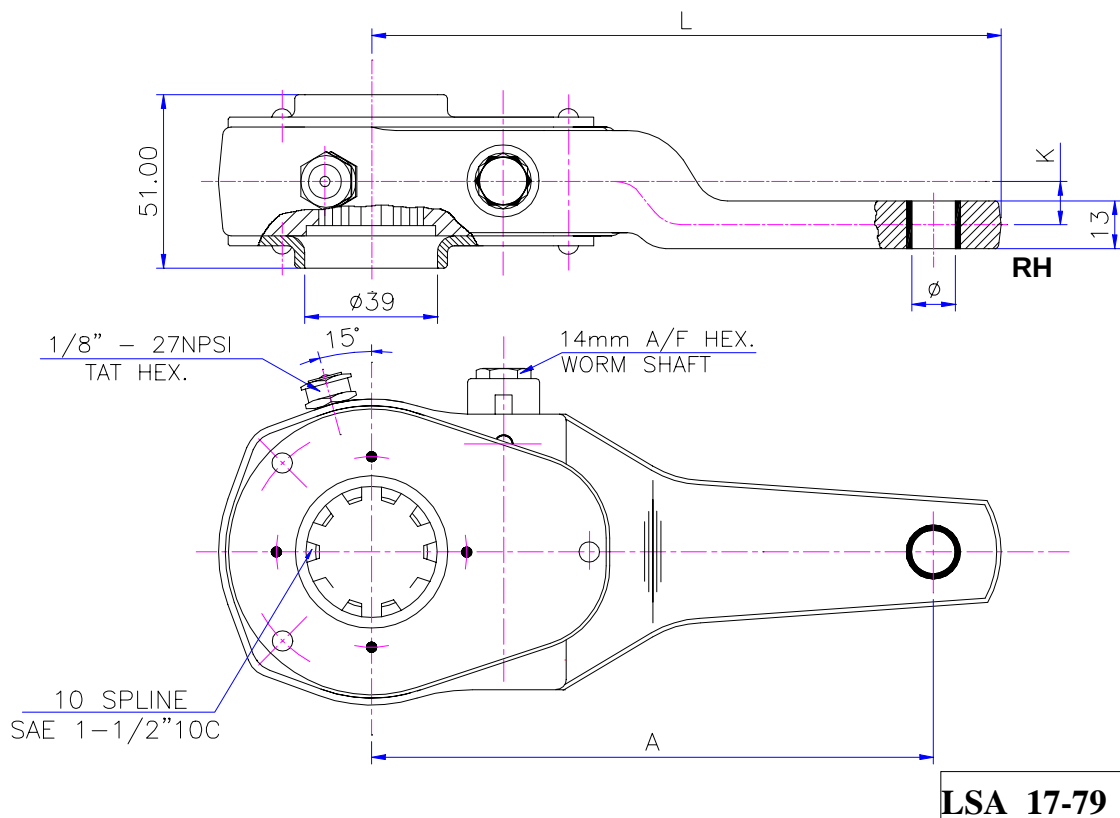
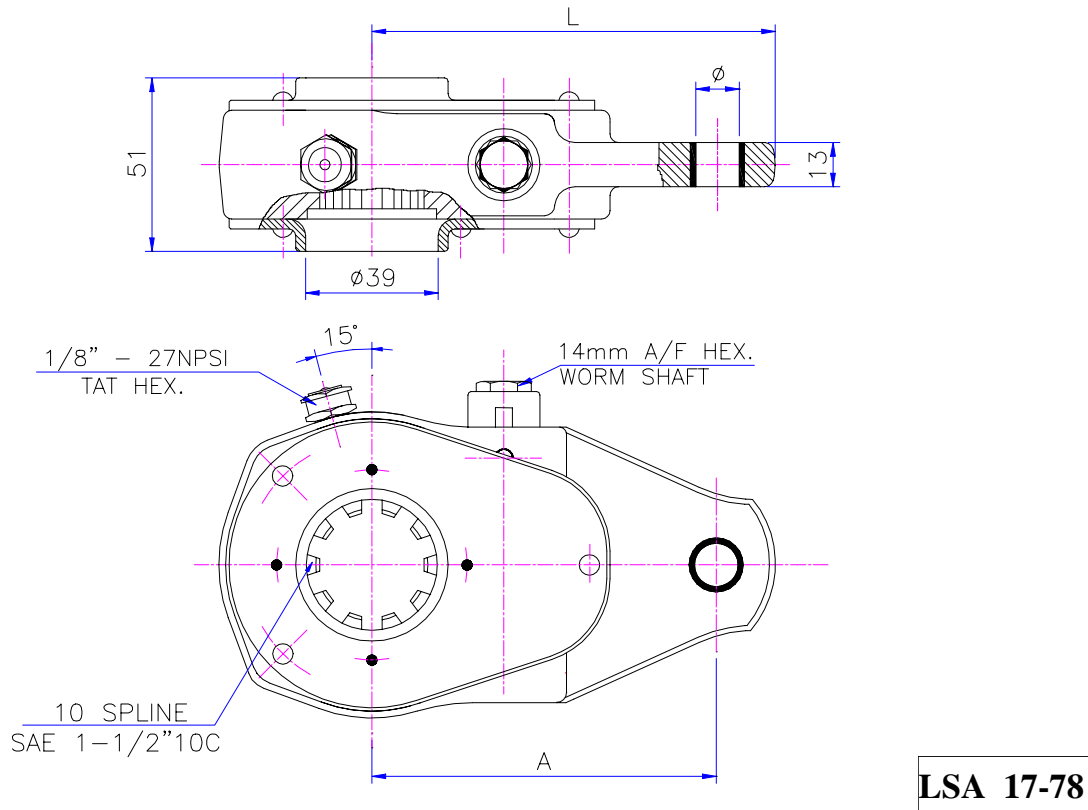


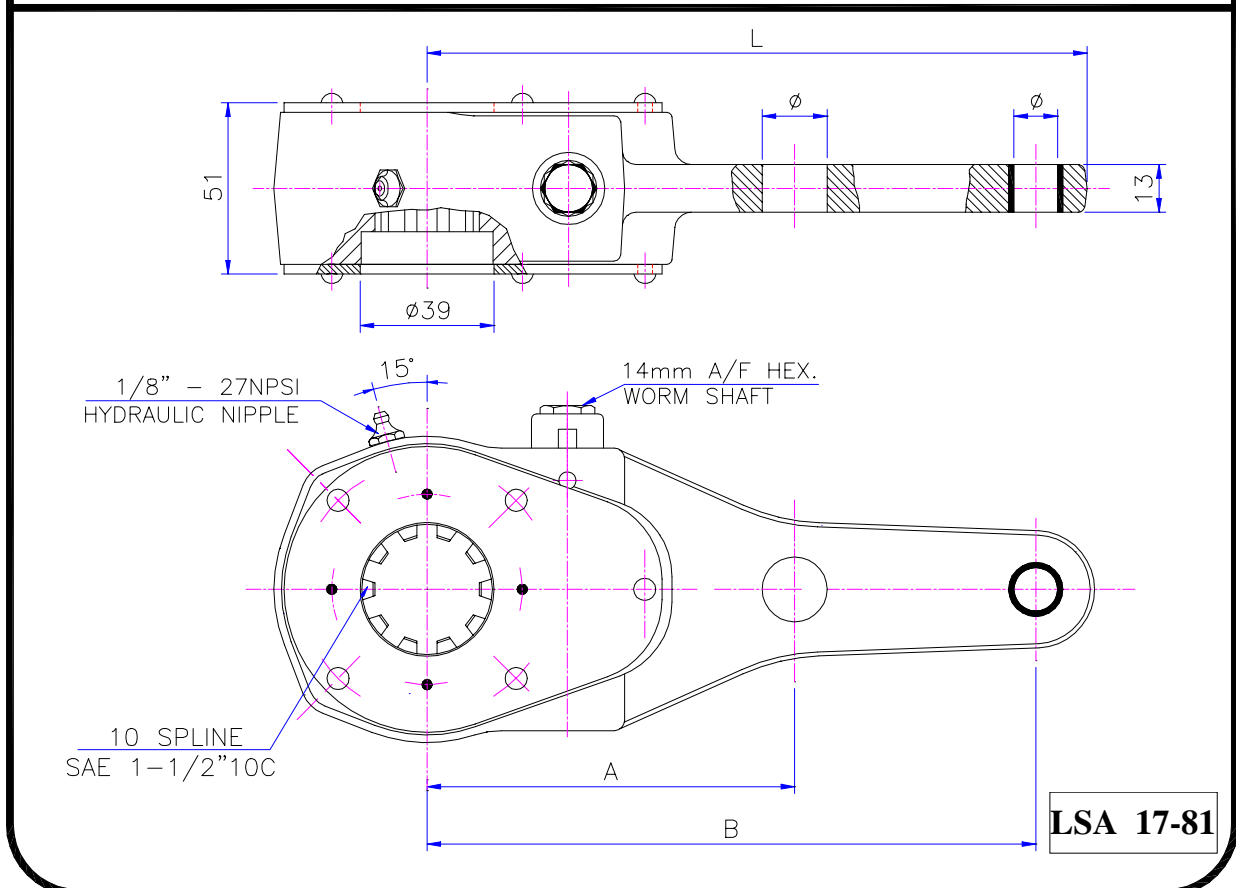
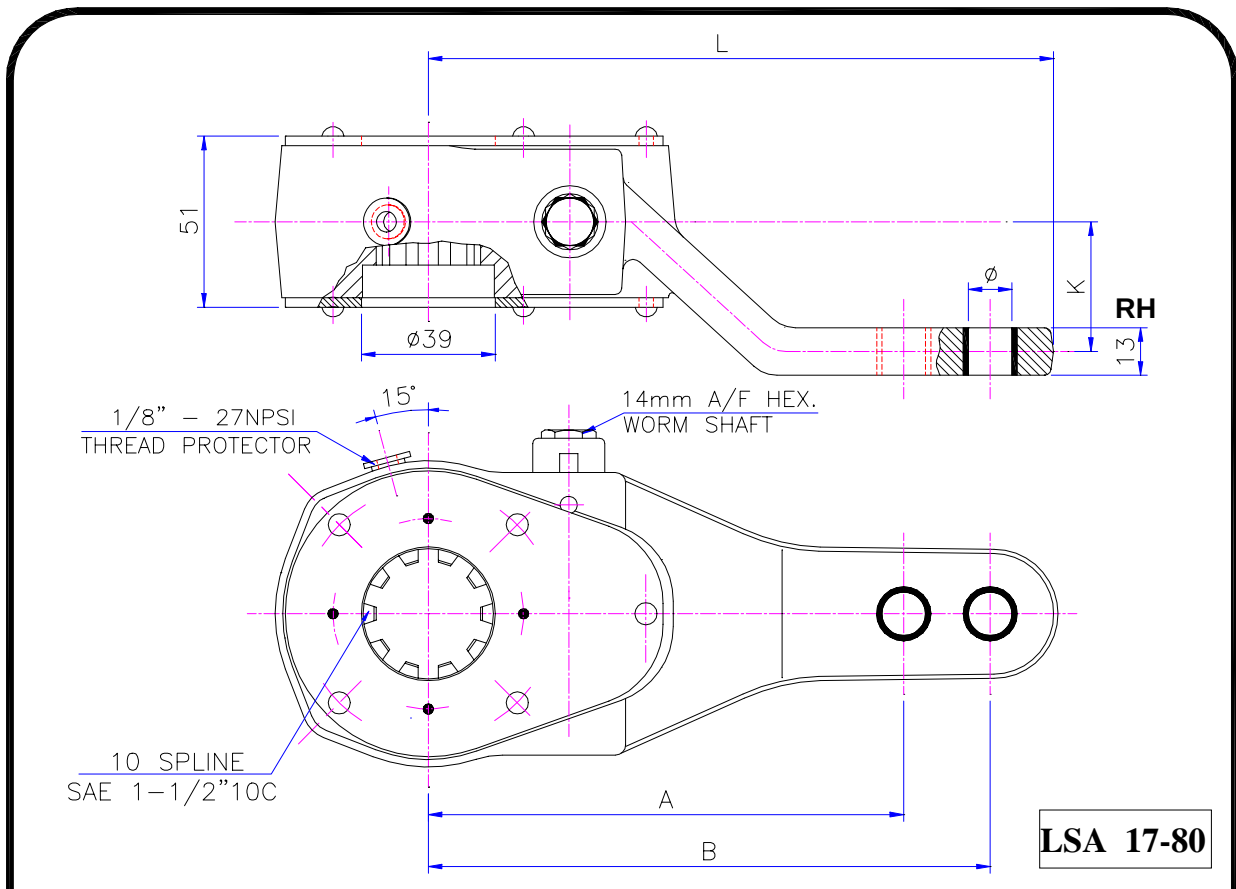


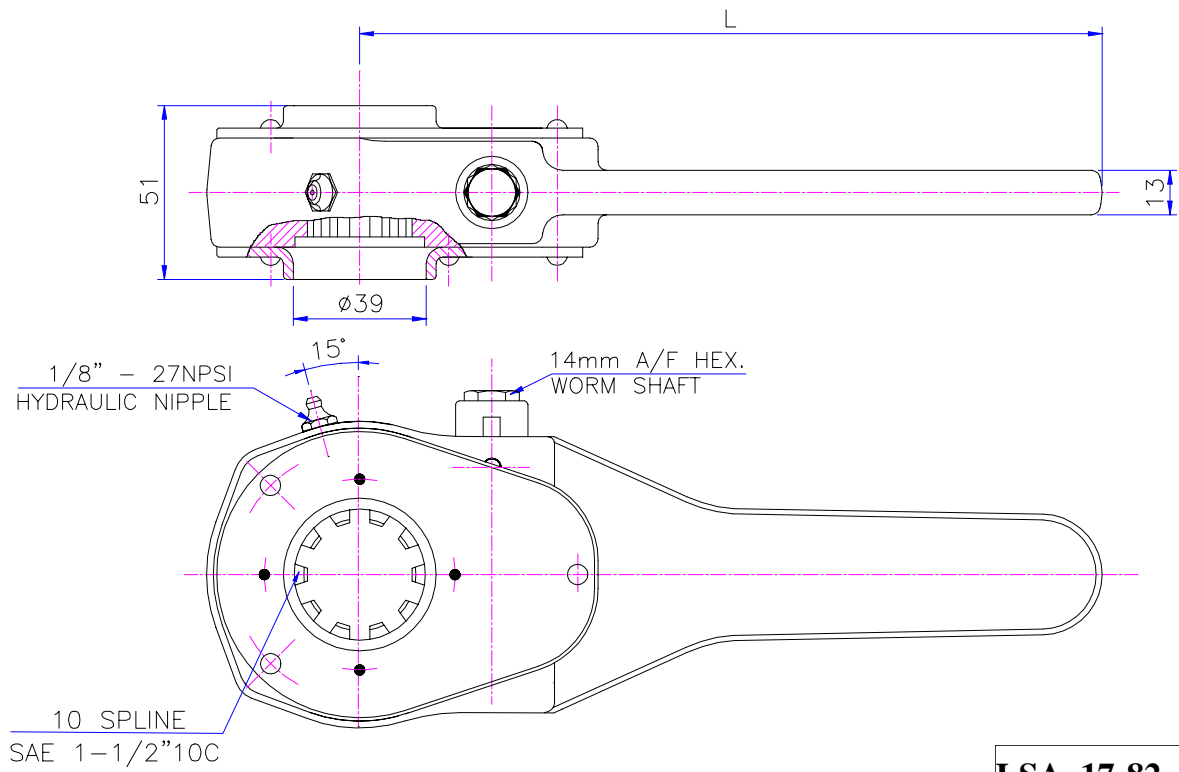




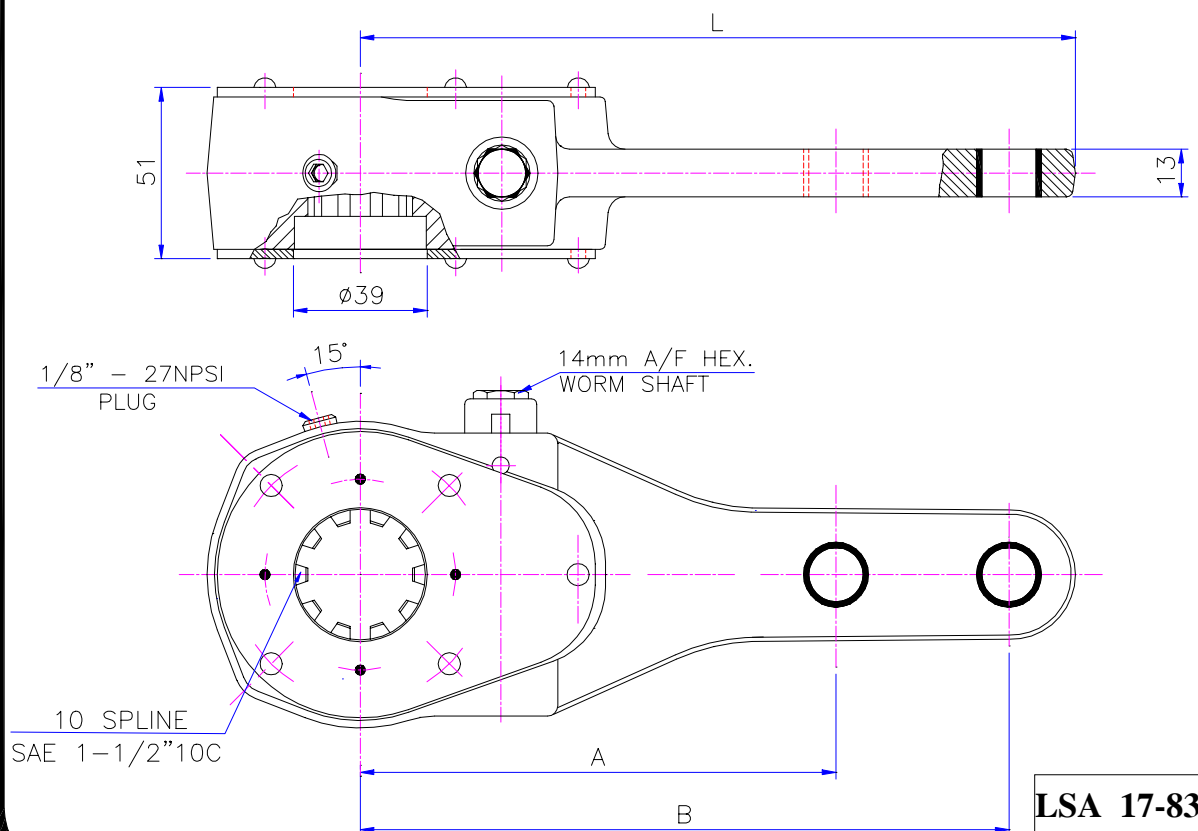




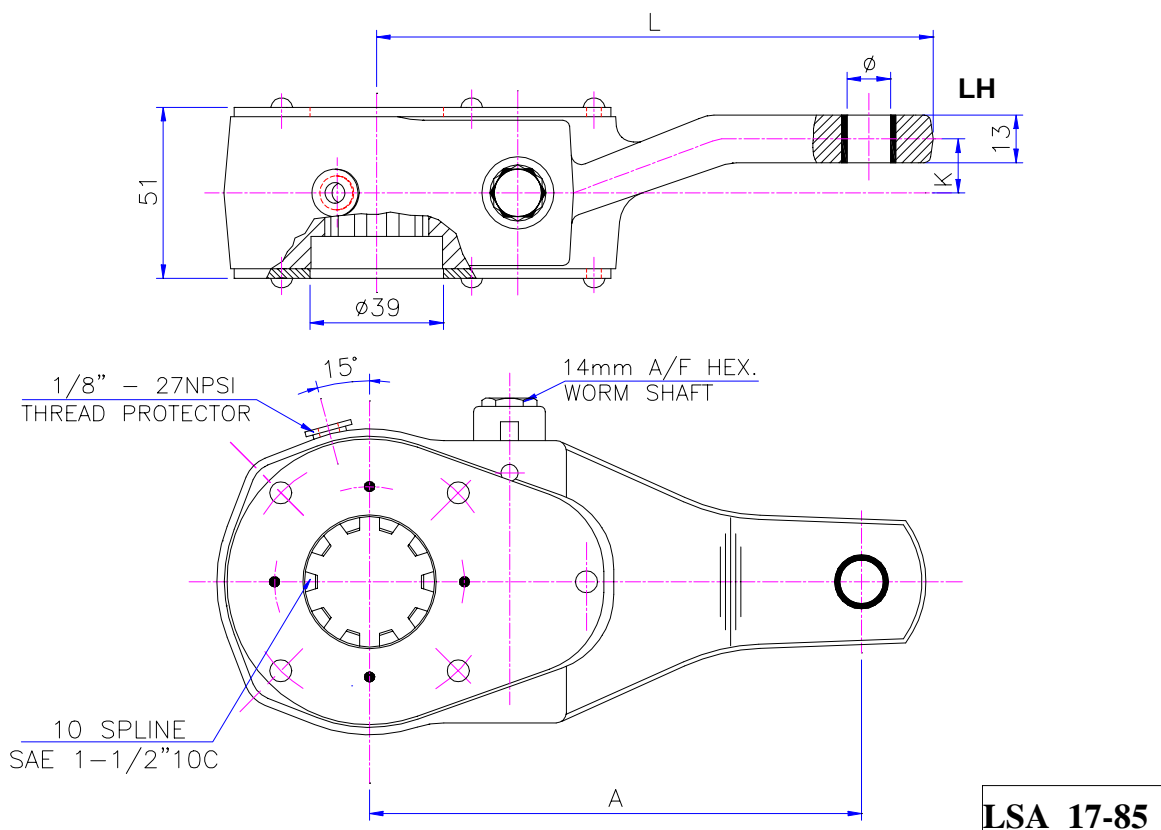
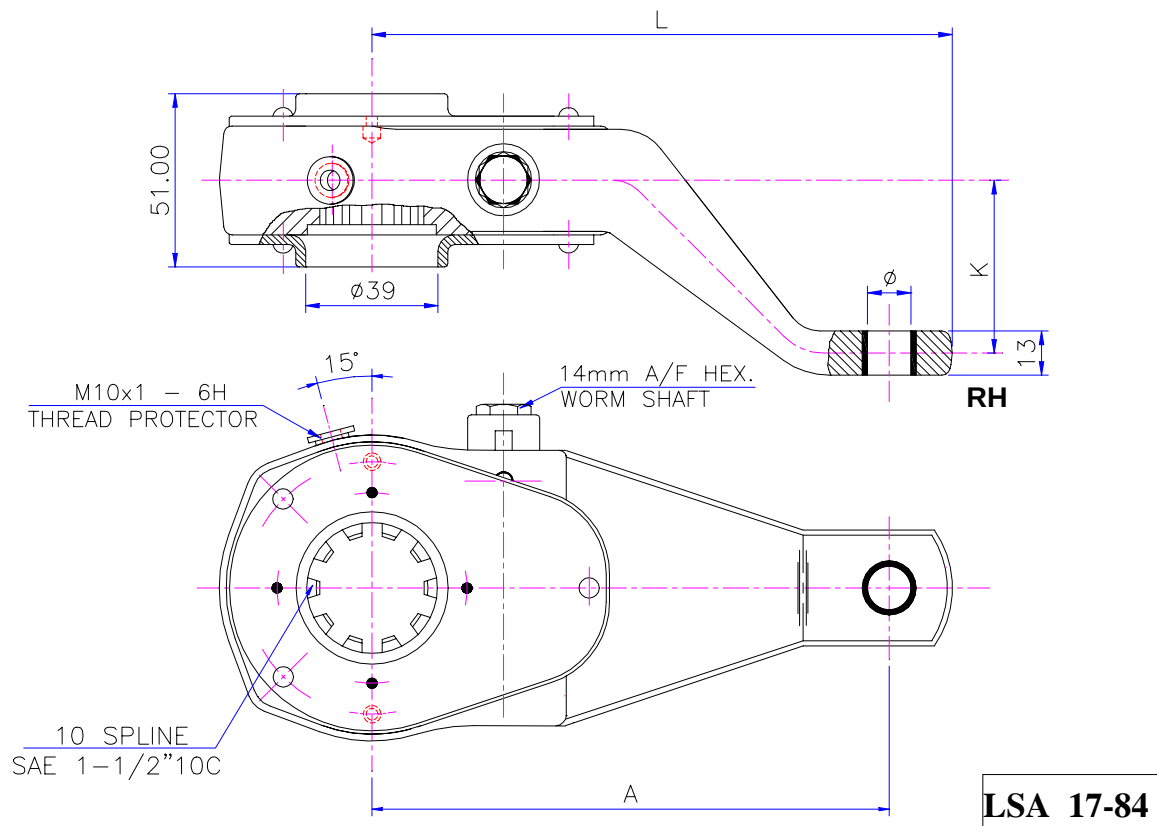


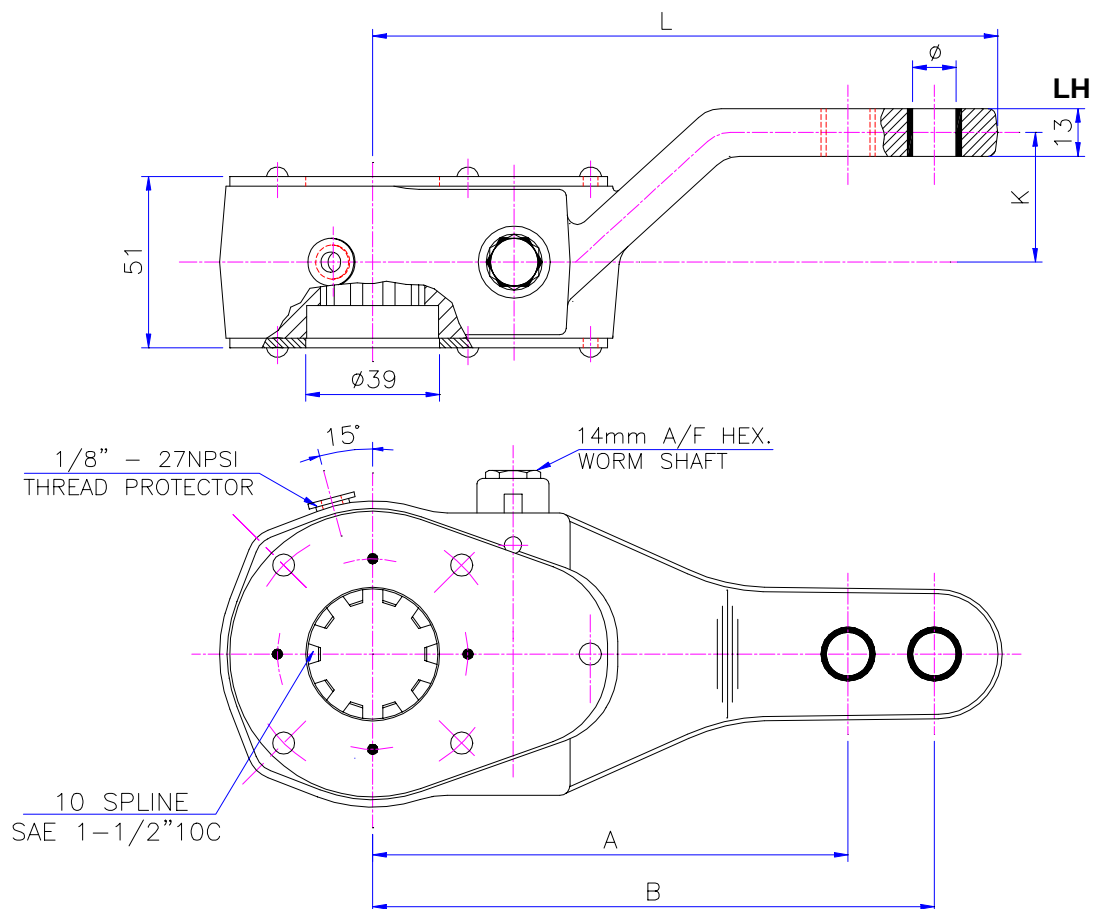


LSA 17-82



LSA 17-83





LSA 17-86



Technical drawing of a mechanical assembly, showing two views: a side view and a front view.

Side View Dimensions:

- Overall length: L
- Main body width: 51
- Input shaft diameter: $\phi 39$
- Output shafts: LH and RH
- Output shaft diameter: ϕ
- Output shaft length: 13
- Output shaft offset: K

Front View Dimensions:

- Overall length: A
- Input shaft: 10 SPLINE SAE 1-1/2"10C
- Worm shaft: 14mm A/F HEX. WORM SHAFT
- Socket taper plug: M10x1-6H, 15°

Part Numbers:

- LSA 17-87
- LSA 17-88
- LSA 17-89
- LSA 17-90



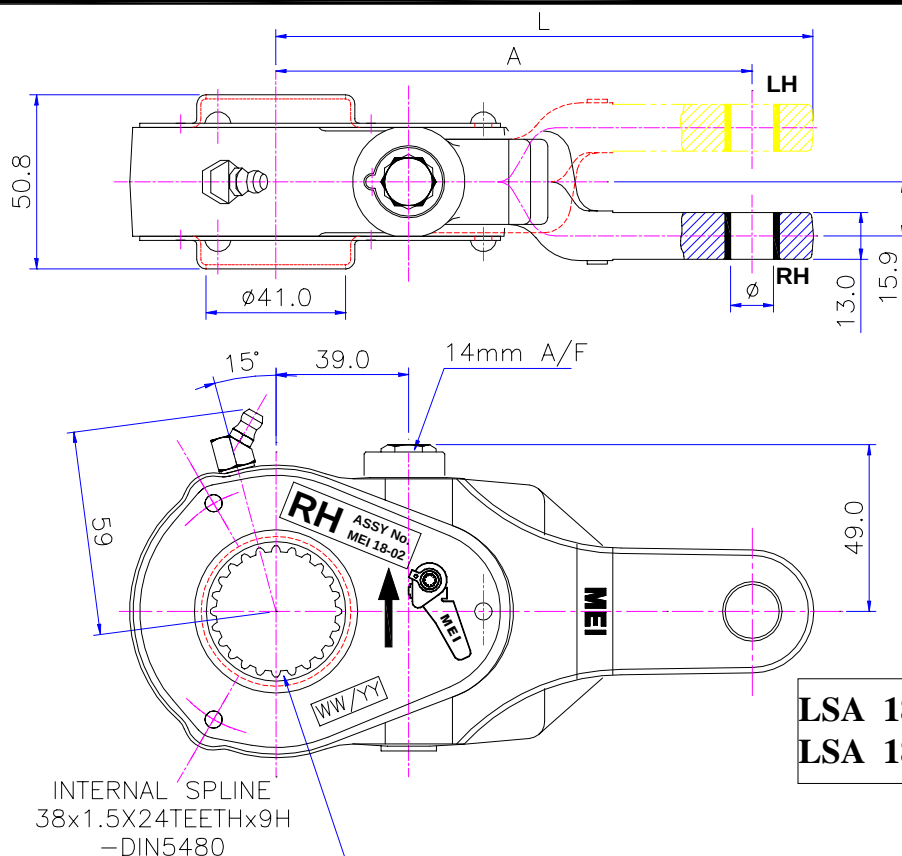
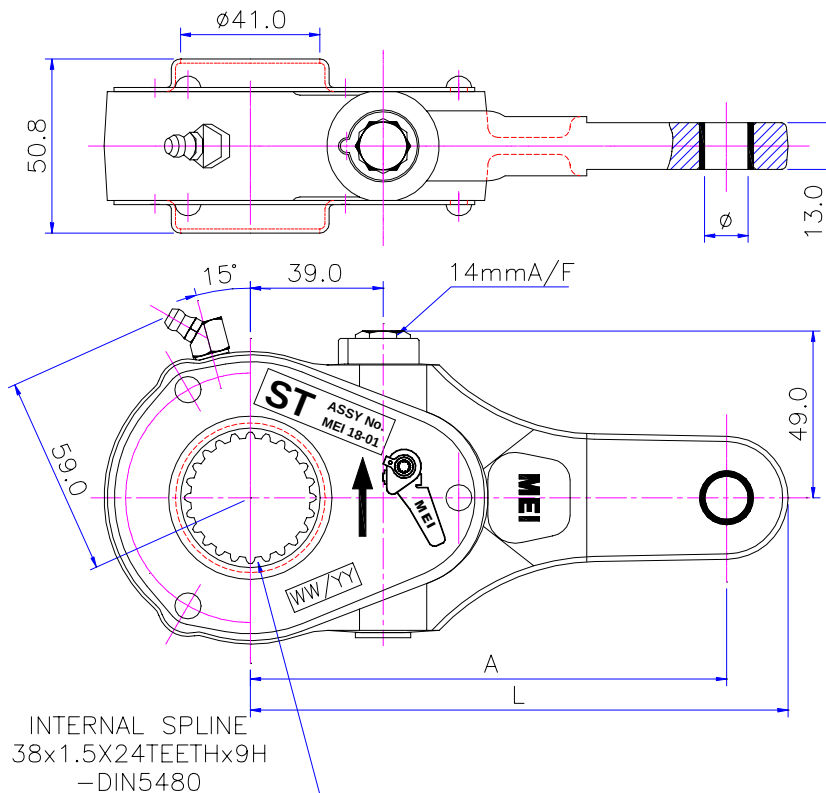
LSA PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET K	LENGTH L	TYPE
		A - Ø	B - Ø	C - Ø	D - Ø	E - Ø	F - Ø	G - Ø			
LSA 17-01		165/16.02							25	159	RH
LSA 17-02		165/16.02							25	159	LH
LSA 17-03		165/16.02								159	Straight
LSA 17-04		177.8/14.02							-	194	Straight
LSA 17-05		165/16.02							50	183	LH
LSA 17-06		165/16.02							50	183	RH
LSA 17-07		165/16.02							65	183	LH
LSA 17-08		165/16.02							65	183	RH
LSA 17-09		127/12.7							12.7	143	RH
LSA 17-10		127/12.7							12.7	143	LH
LSA 17-11		139.7/12.75							12.7	156	LH
LSA 17-12		139.7/12.75							12.7	156	RH
LSA 17-13		130.2/12.75							15.9	146	RH
LSA 17-14		130.2/12.75							15.9	146	LH
LSA 17-15		130/16.02							15.9	148	RH
LSA 17-16		130/16.02							15.9	148	LH
LSA 17-17		133.4/12.75							15.9	150	RH
LSA 17-18		133.4/12.75							15.9	150	LH
LSA 17-19		152.4/12.65							15.9	168	RH
LSA 17-20		152.4/12.65							15.9	168	LH
LSA 17-21		165.1/12.65							15.9	182	LH
LSA 17-22		152.4/12.75							50	168	RH
LSA 17-23		152.4/12.75							50	168	LH
LSA 17-24		133.4/12.65							-	149	Straight
LSA 17-25		139.7/12.65							-	156	Straight
LSA 17-26		139.7/12.65							-	156	Straight
LSA 17-27		127/12.7							-	143	Straight
LSA 17-28		108/12.65	133.4/12.65							149	Straight
LSA 17-29		114.3/12.65	139.7/12.65						-	156	Straight
LSA 17-30		146.1/12.65	168.3/12.65						38.1	182	RH
LSA 17-31		146.1/12.65	168.3/12.65						38.1	182	LH
LSA 17-32		114.3/12.65	139.7/12.65	165.1/12.65					-	182	Straight
LSA 17-33		119.4/12.65							28.6	136	RH
LSA 17-34		119.4/12.65							28.6	136	LH

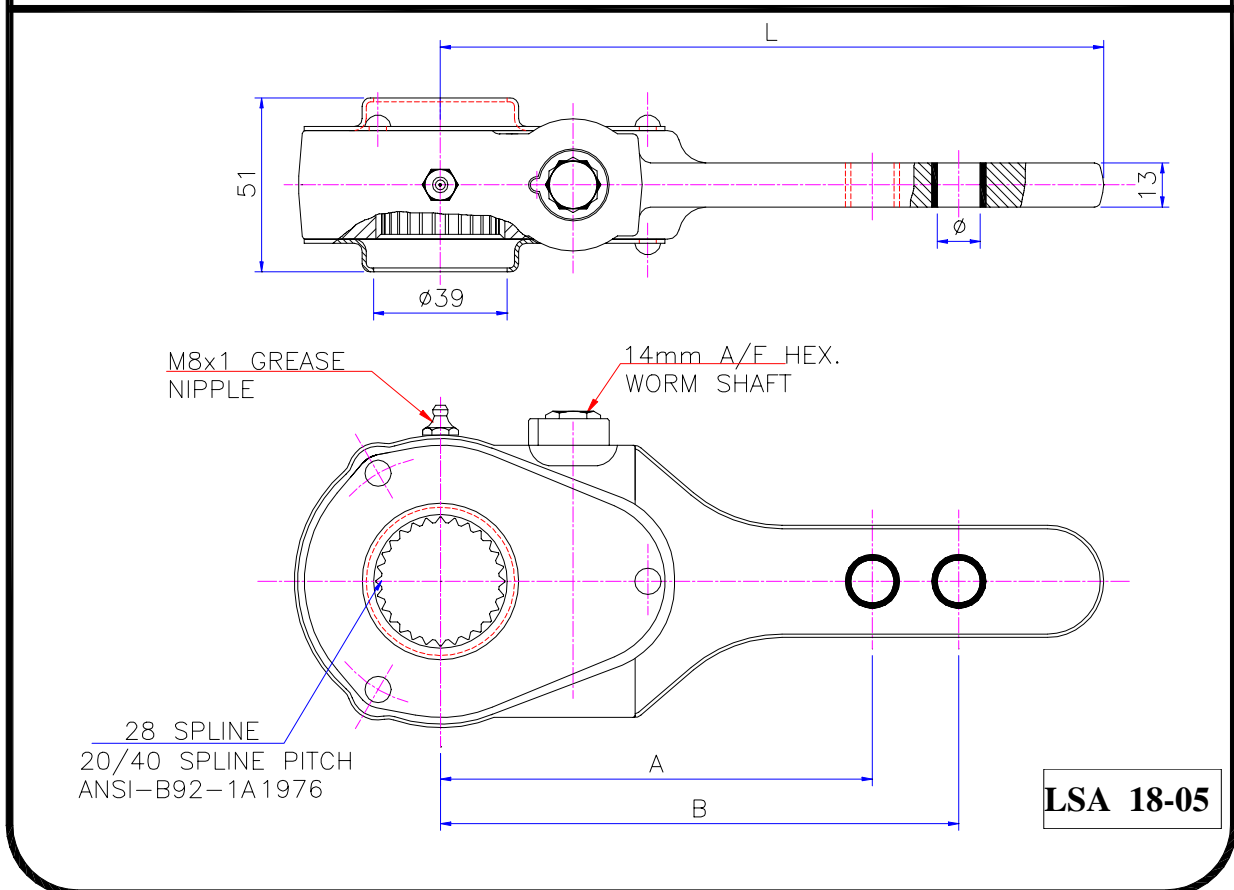
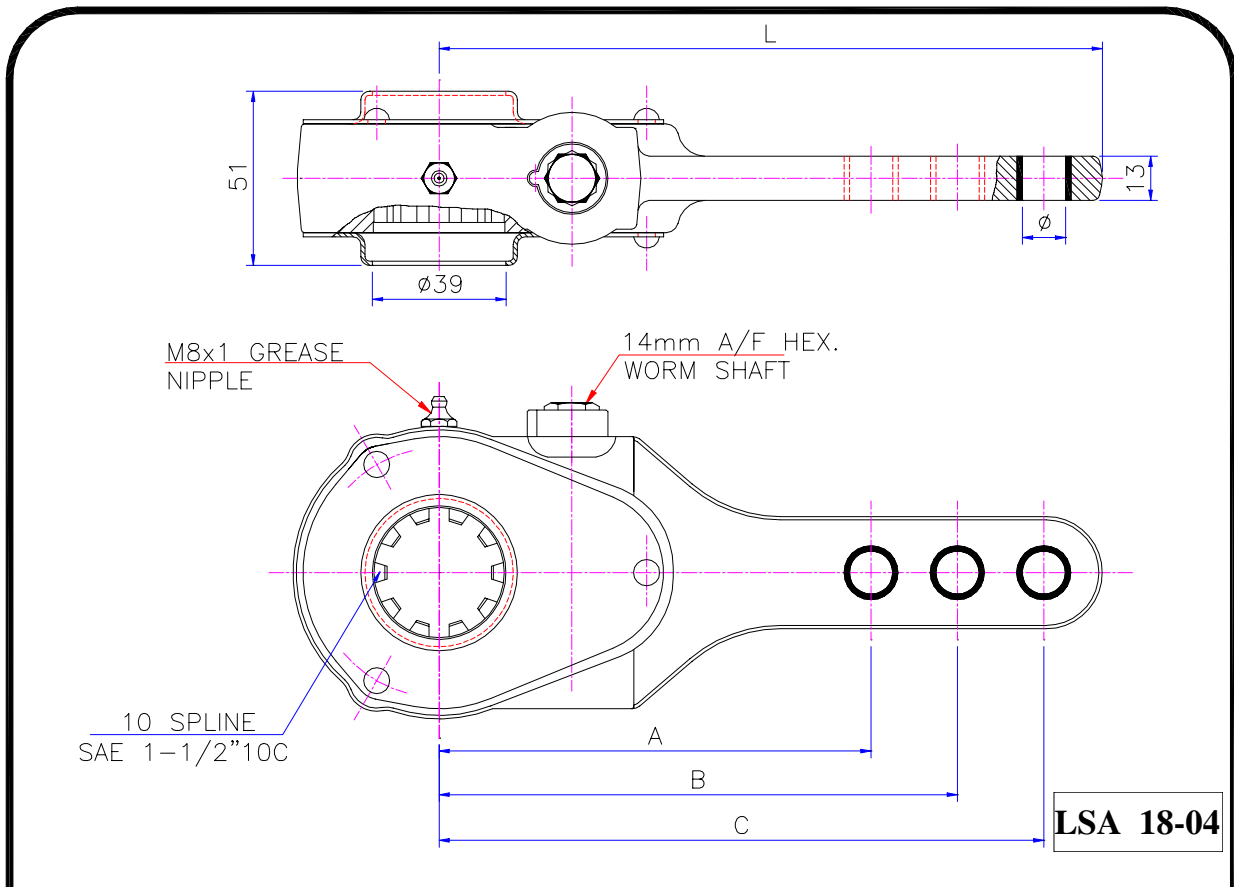


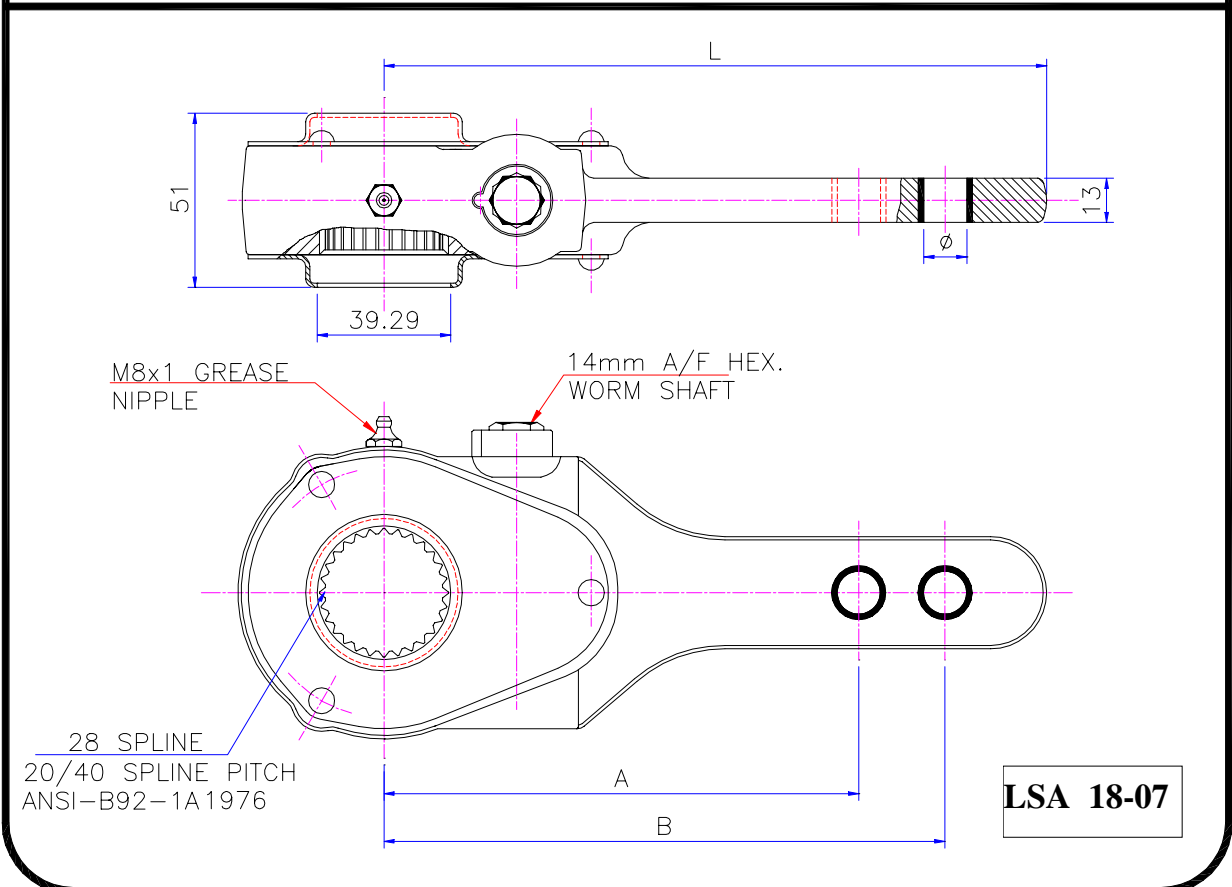
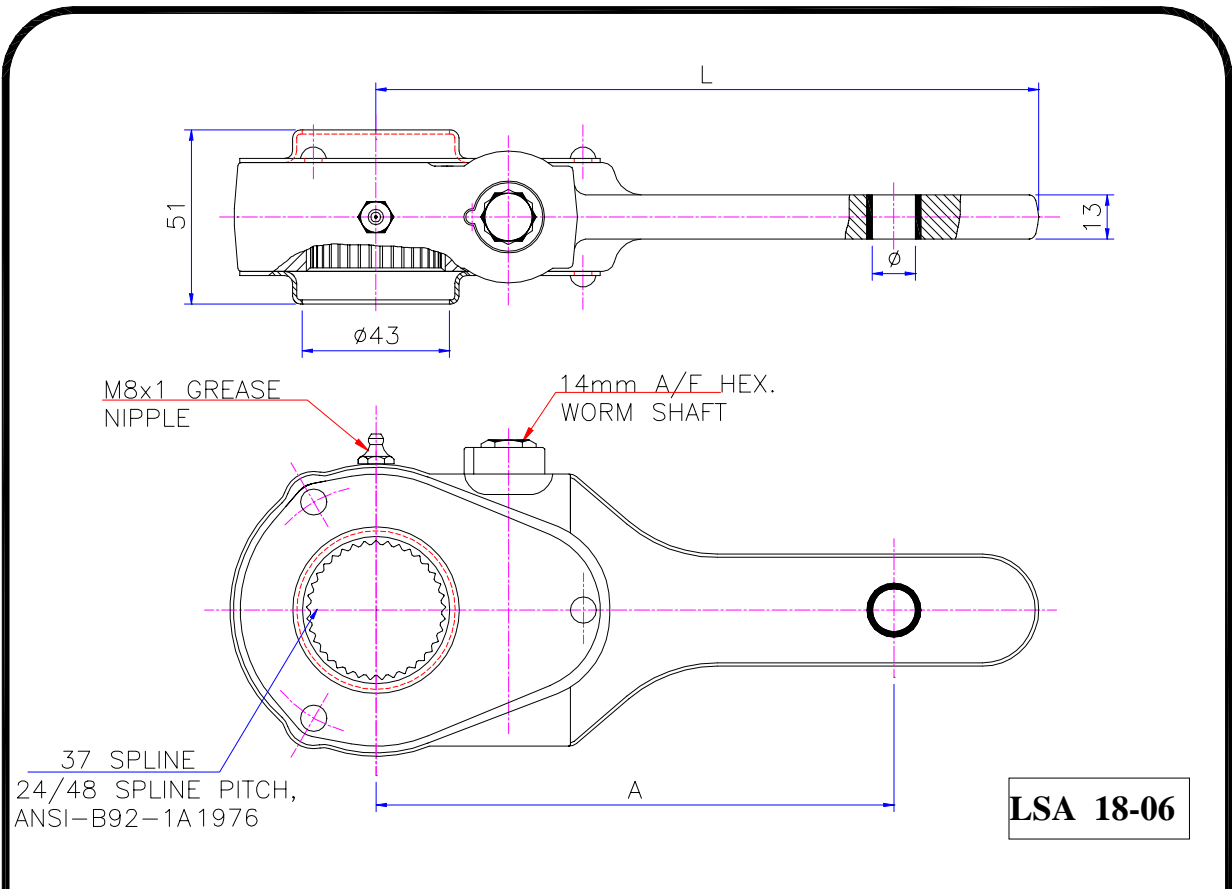
MEI PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET K	LENGTH L	TYPE
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LSA 17-35		133.4/12.65							28.6	149	RH
LSA 17-36		133.4/12.65							28.6	149	LH
LSA 17-37		145/12.75							15.9	161	RH
LSA 17-38		165.1/16.02								182	Straight
LSA 17-39		139.7/12.65							38.1	156	LH
LSA 17-40		127/12.65	152.4/12.65							168	straight
LSA 17-41		139.7/12.65	165.1/12.65							181	straight
LSA 17-42		152.4/12.75							38.1	168	RH
LSA 17-43		152.4/12.75							38.1	168	LH
LSA 17-44		133.4/12.75							22.2	149	RH
LSA 17-45		127/12.65	152.4/12.65	177.8/12.65	203.2/12.65					218	straight
LSA 17-46		139.7/12.75							22.2	156	LH
LSA 17-47		165.1/12.75							38.1	182	RH
LSA 17-48		165.1/12.75							38.1	182	LH
LSA 17-49		152.4/12.65							28.6	169	LH
LSA 17-50		165.1/16.02							15.9	182	RH
LSA 17-51		165.1/16.02							15.9	182	LH
LSA 17-52		133.4/12.75							22.2	149	LH
LSA 17-53		165.1/15.9								182	straight
LSA 17-54		238.0/14.7							16	255	RH
LSA 17-55		177.8/12.65								194	Straight
LSA 17-56		152.4/16.02								170	Straight
LSA 17-59		133.4/12.75							15.9	150	LH
LSA 17-61		152.4/16.02	177.8/16.02							194	Straight
LSA 17-64		139.7/12.65	165.1/12.65							194	Straight
LSA 17-65		139.7/12.75							22.2	156	RH
LSA 17-66		146.1/12.65	168.3/12.65						38.1	182	LH
LSA 17-67		139.7/12.65								156	Straight
LSA 17-68		165.1/16.02								181	Straight
LSA 17-69		139.7/12.65							38.1	156	RH
LSA 17-70		152.4/12.65							28.6	169	RH
LSA 17-71		152.4/15.75	177.8/15.75							194	Straight
LSA 17-72		158.8/12.65								175	Straight
LSA 17-73		158.8/12.65								175	Straight

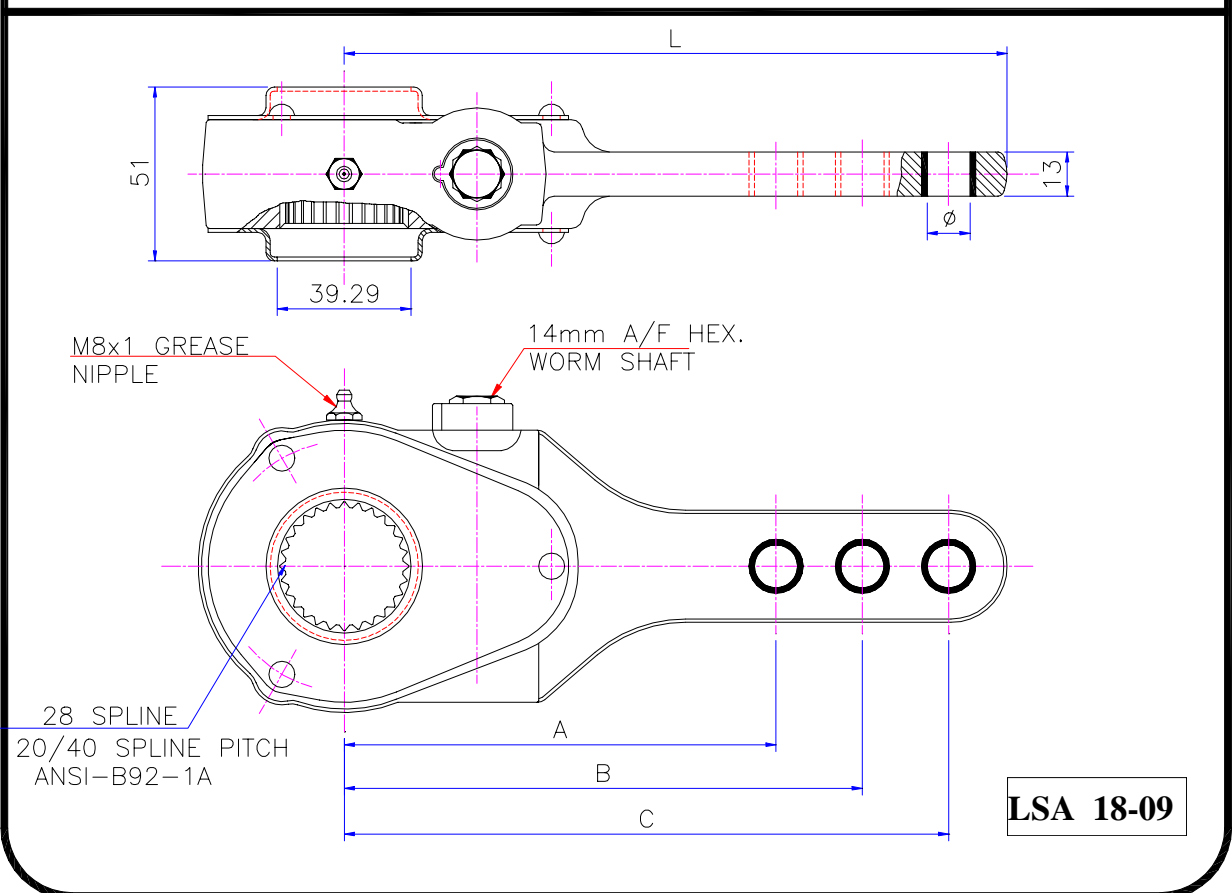
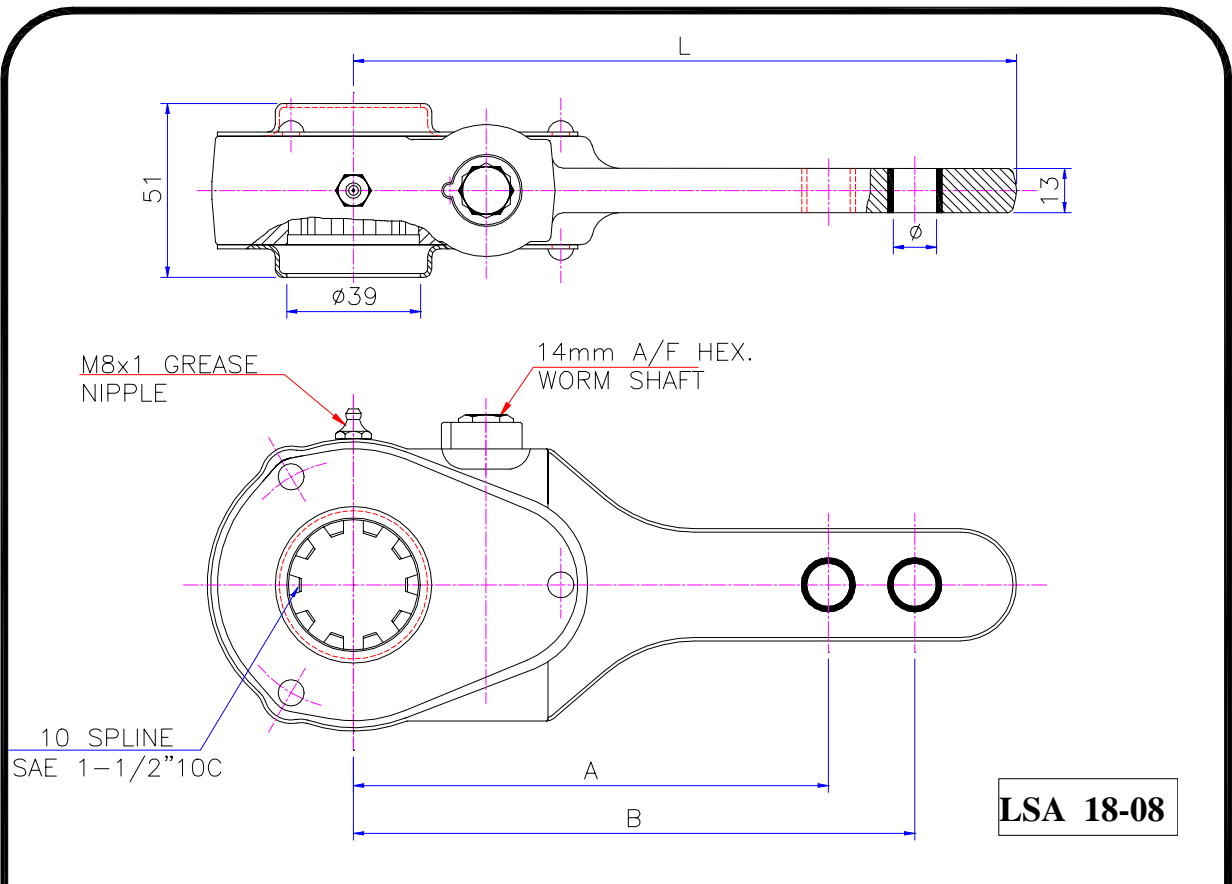


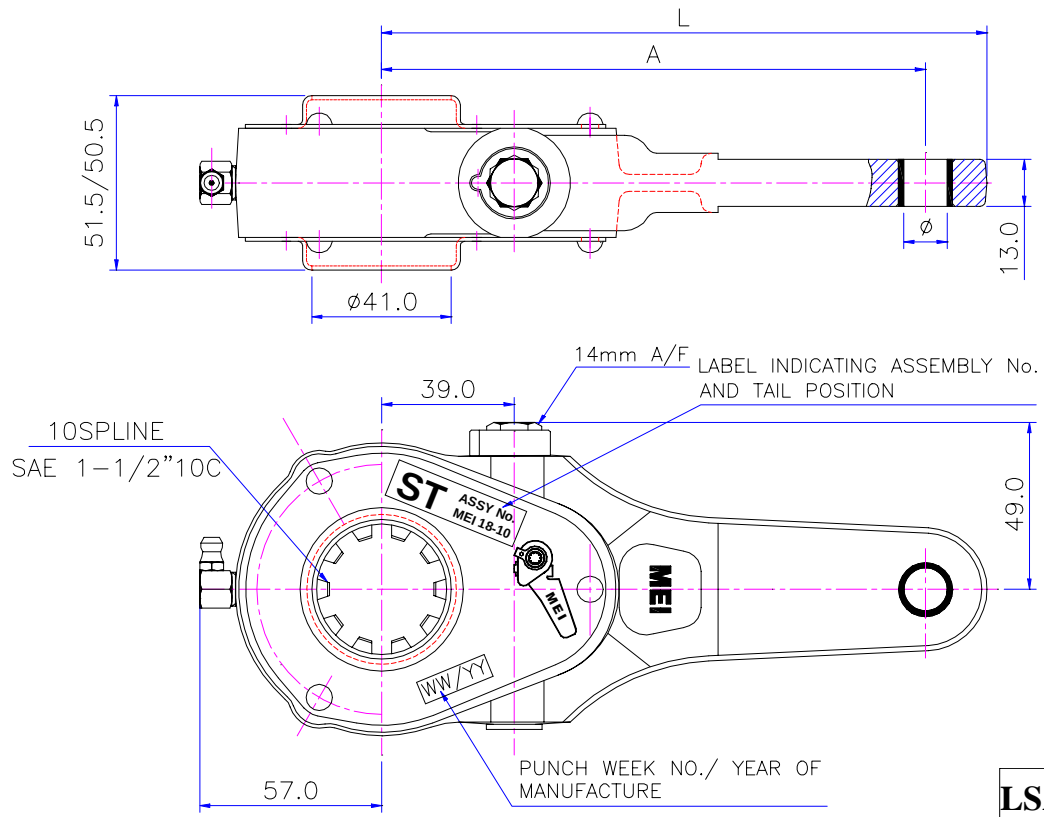
MEI PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET	LENGTH	TYPE
		A - Ø	B - Ø	C - Ø	D - Ø	E - Ø	F - Ø	G - Ø	K	L	
LSA 17-74		139.7/14.0								156	Straight
LSA 17-75		139.7/12.65								156	Straight
LSA 17-76		139.7/14.0							38.1	157	RH
LSA 17-77		139.7/14.0							38.1	157	LH
LSA 17-78		101.6/12.65								118	Straight
LSA 17-79		165.1/12.65							15.9	182	RH
LSA 17-80		139.7/12.65	165.1/12.65						38.1	182	RH
LSA 17-81		108/19.0	177.8/12.65							194	straight
LSA 17-82										218	Straight
LSA 17-83		139.7/15.75	190.5/15.75							207	Straight
LSA 17-84		152.4/12.75							60	168	RH
LSA 17-85		145/12.75							15.9	161	LH
LSA 17-86		139.7/12.65	165.1/12.65						38.1	182	LH
LSA 17-87		250/12.75							60	266	RH
LSA 17-88		250/12.75							60	266	LH
LSA 17-89		250/16.02							60	266	RH
LSA 17-90		250/16.02							60	266	LH



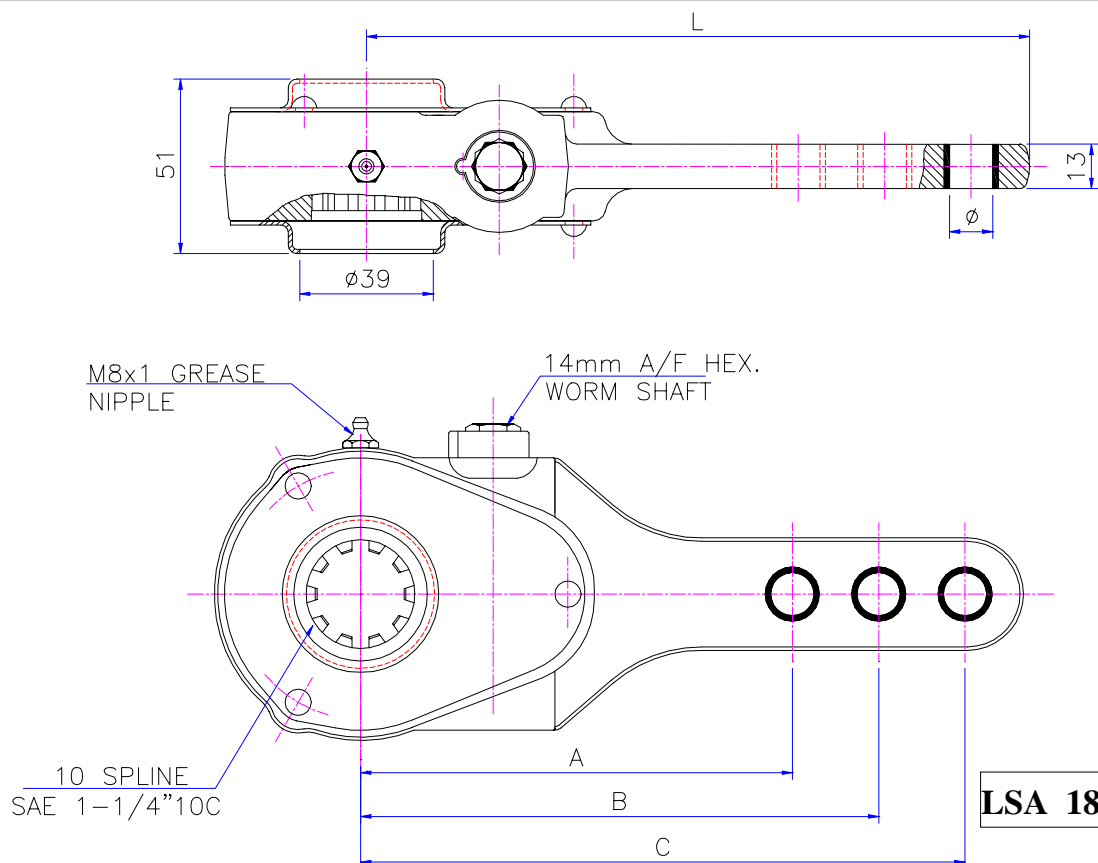




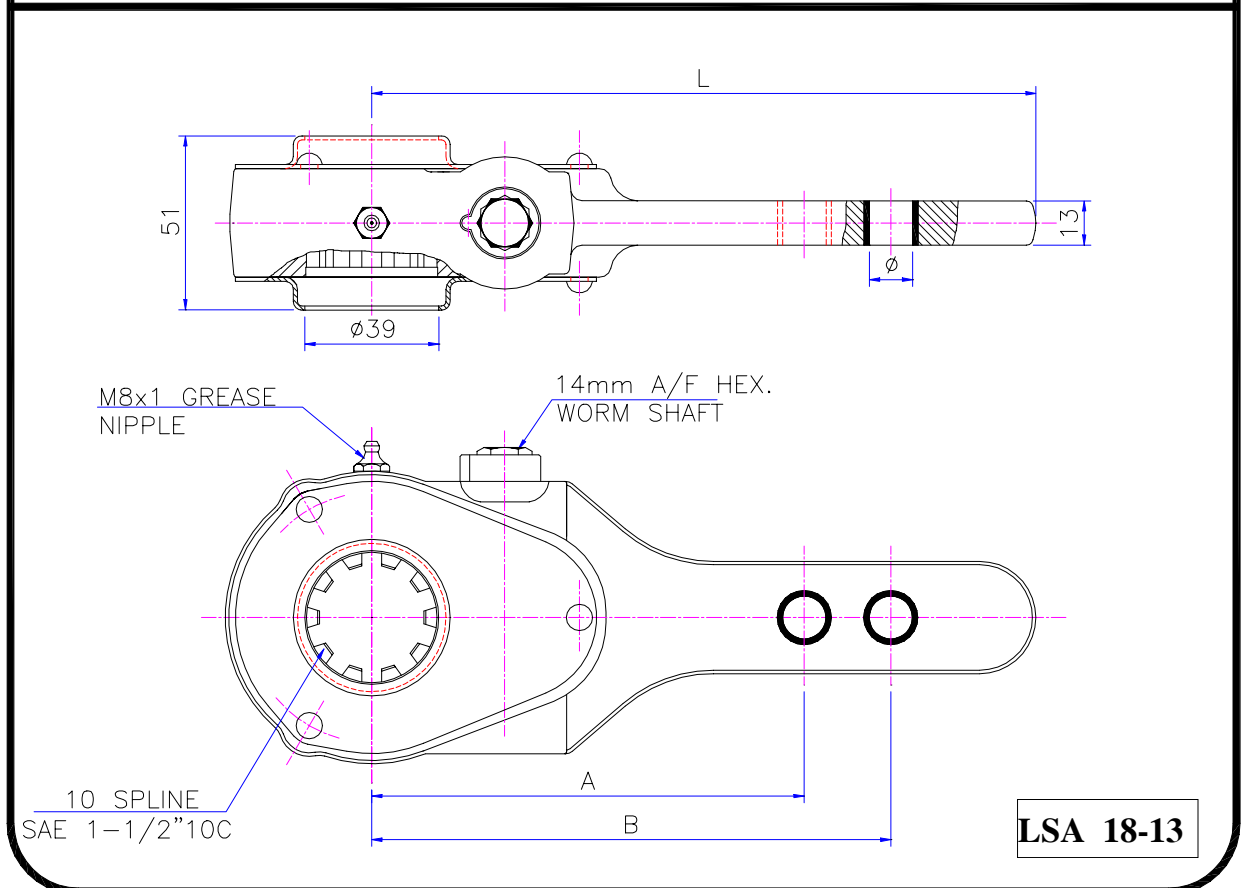
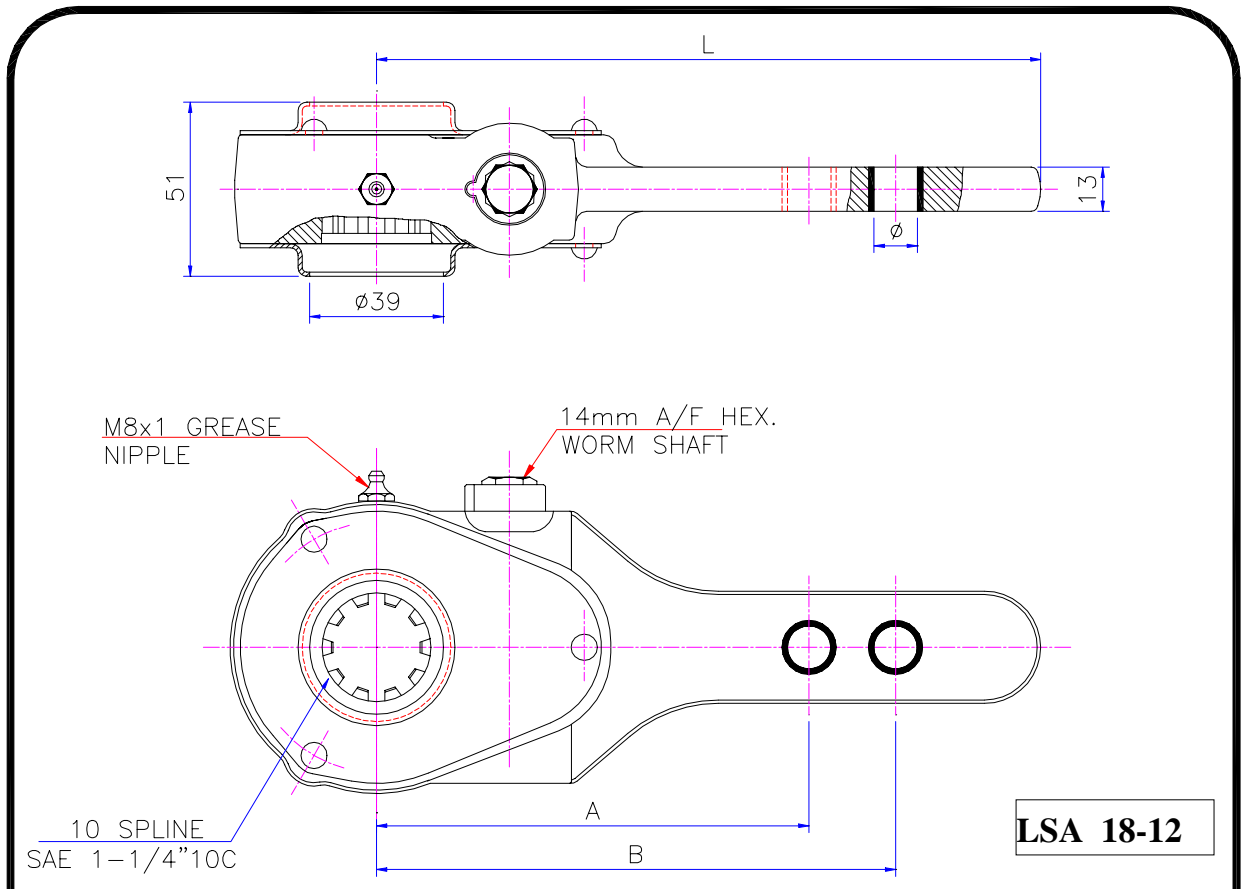


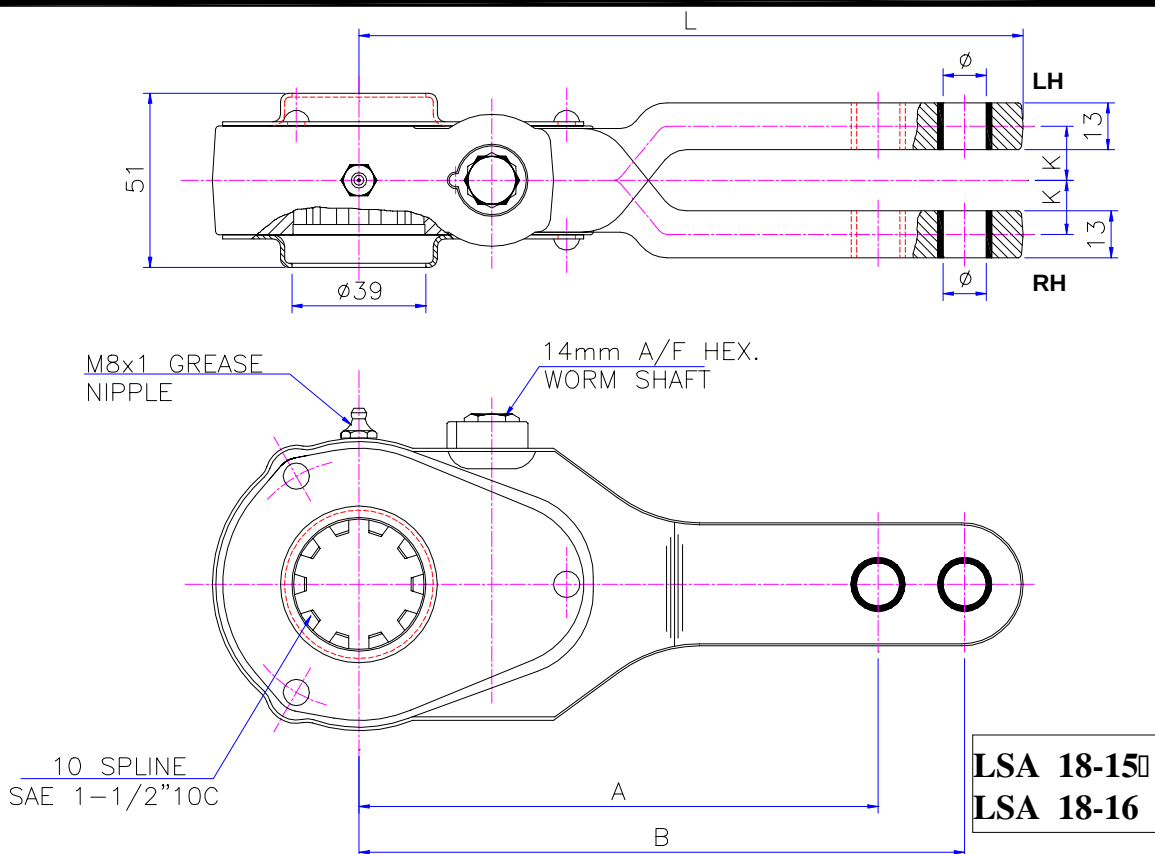
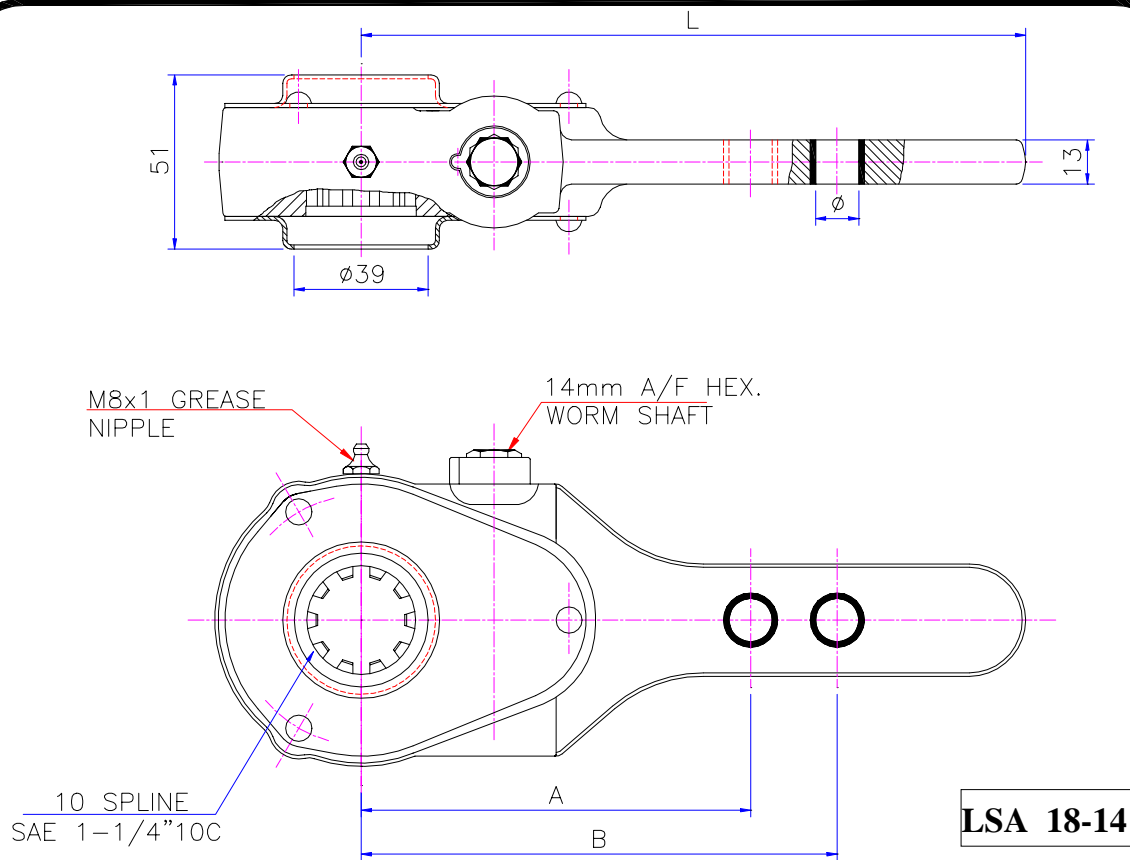


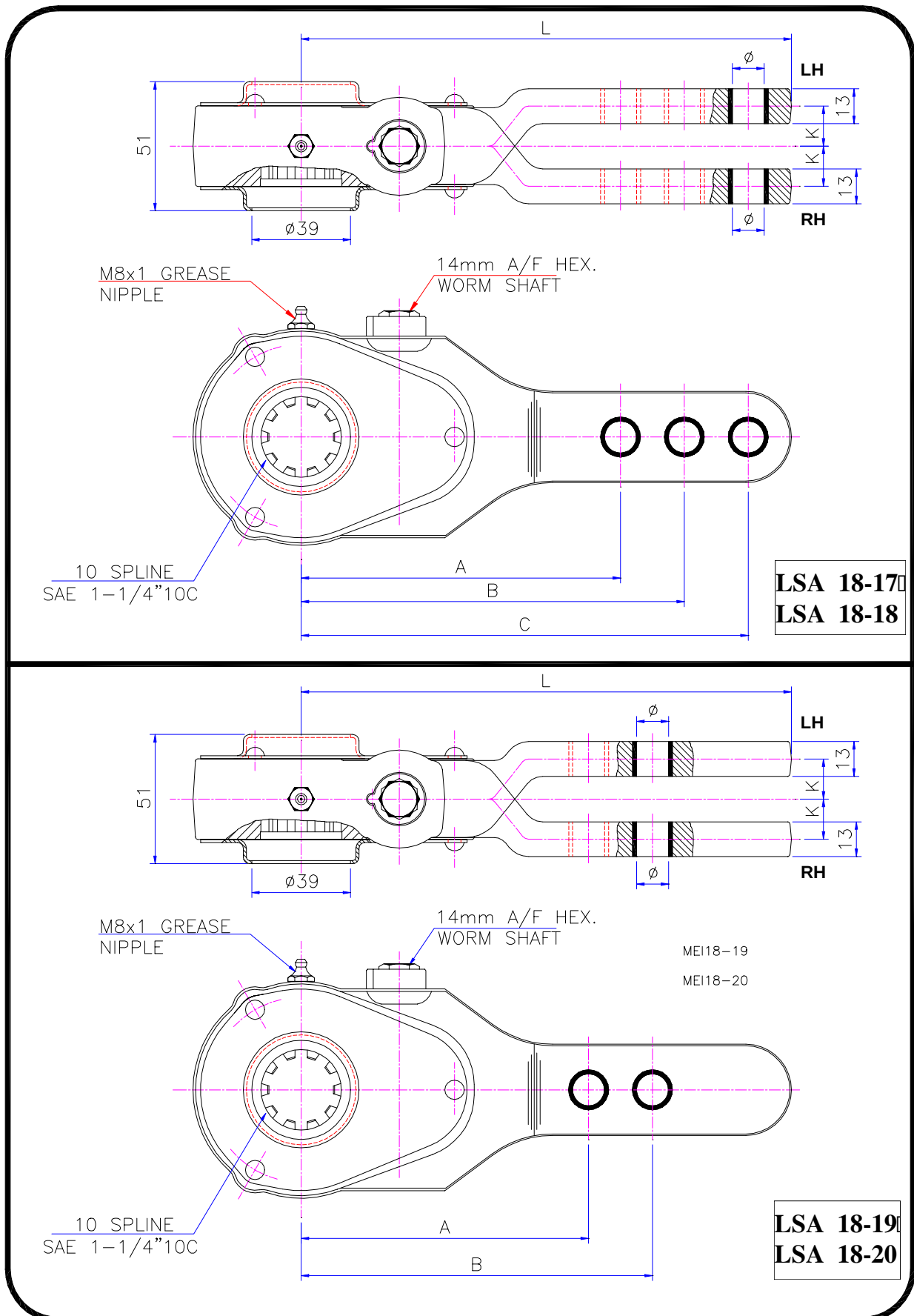
LSA 18-10

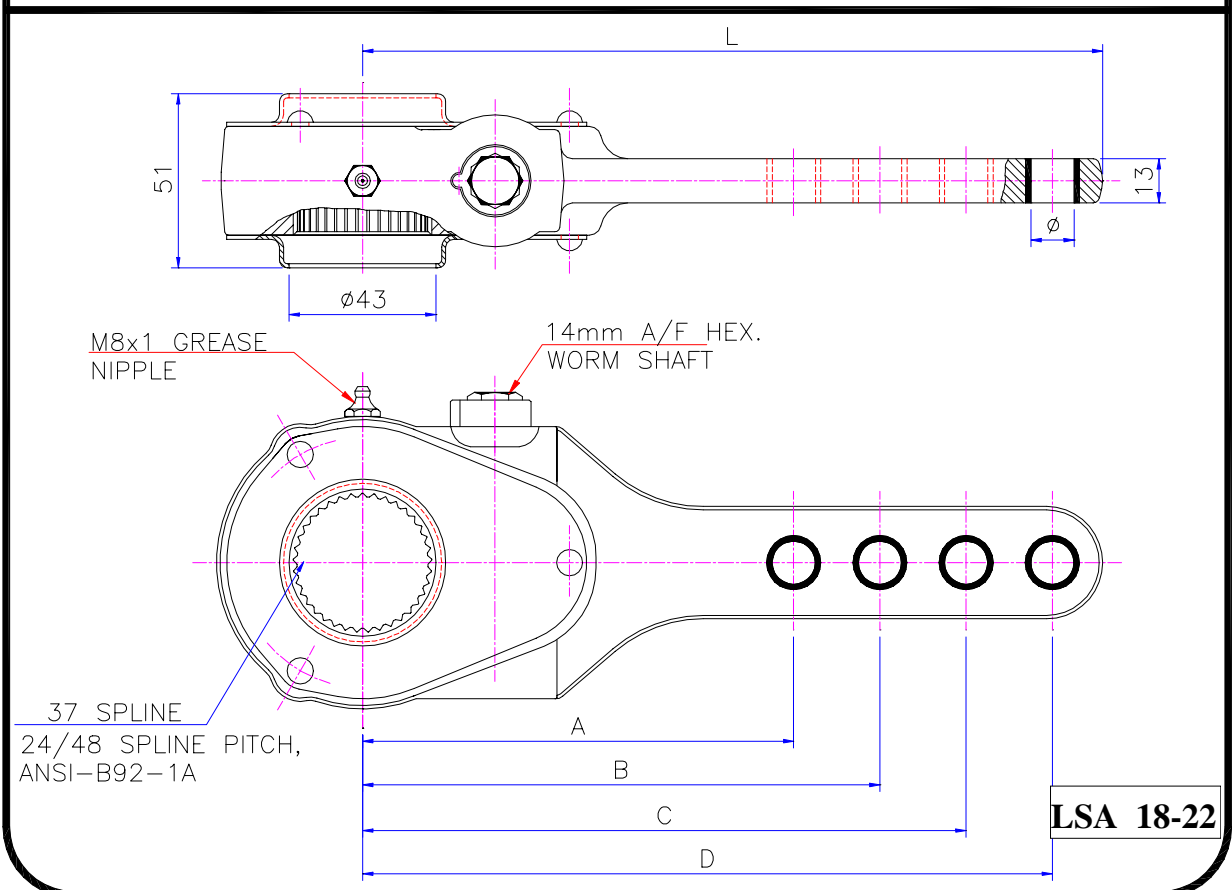
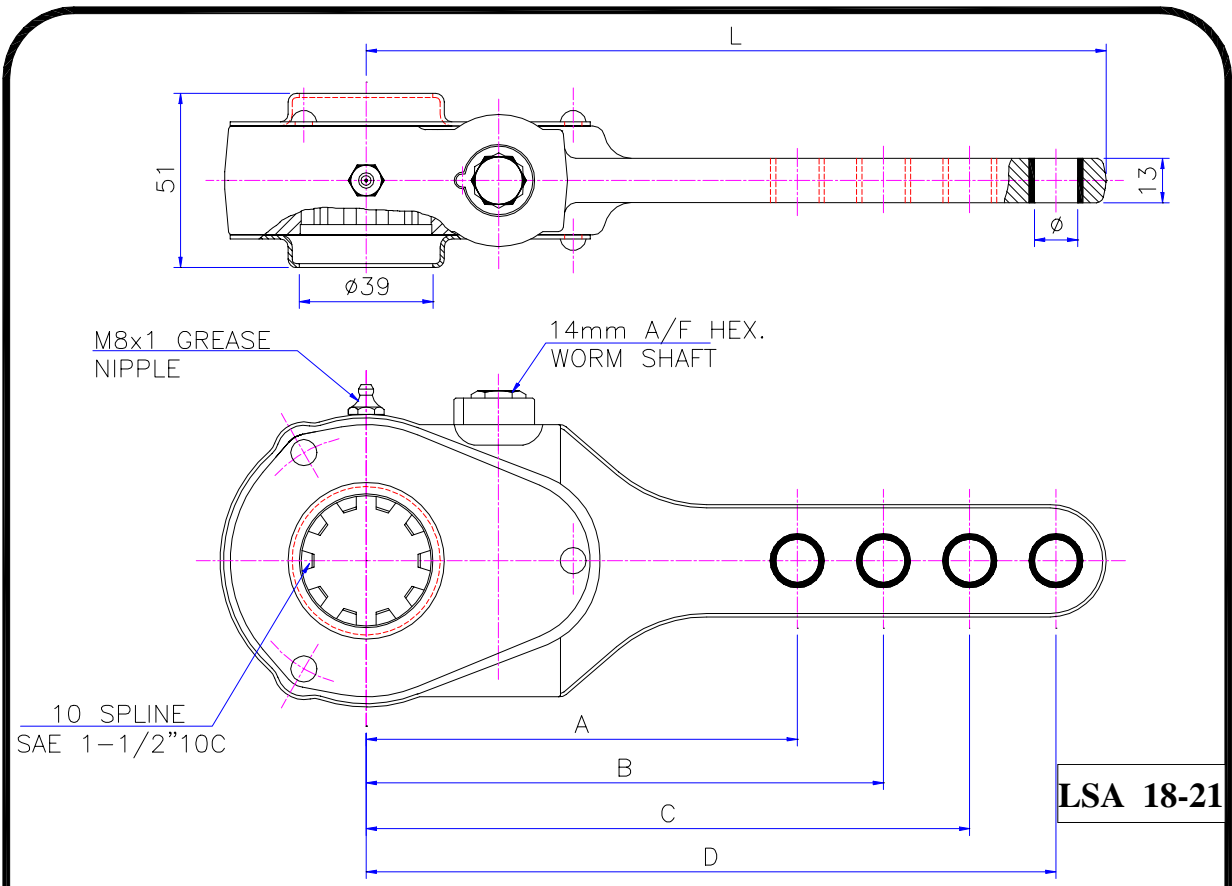


LSA 18-11





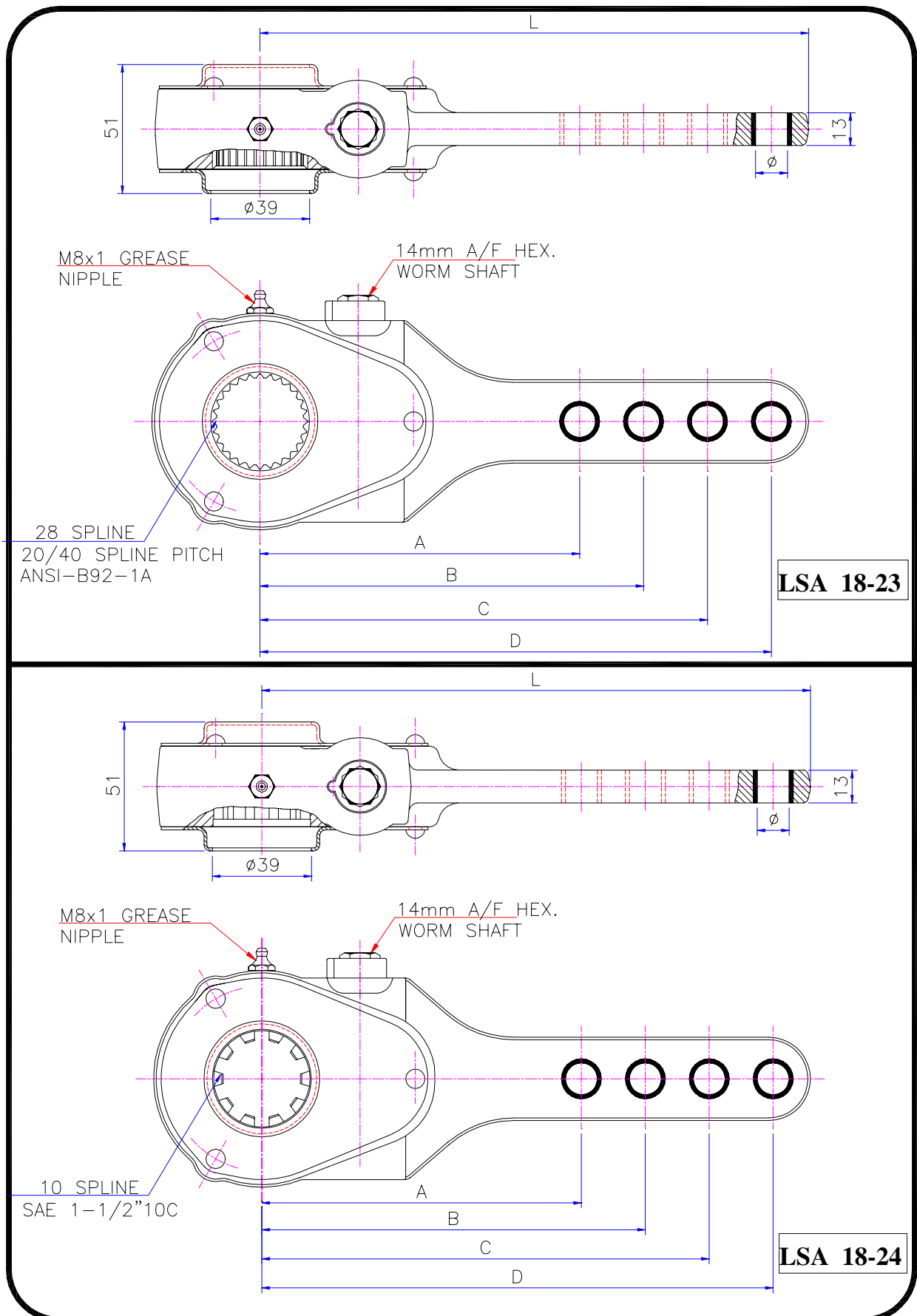


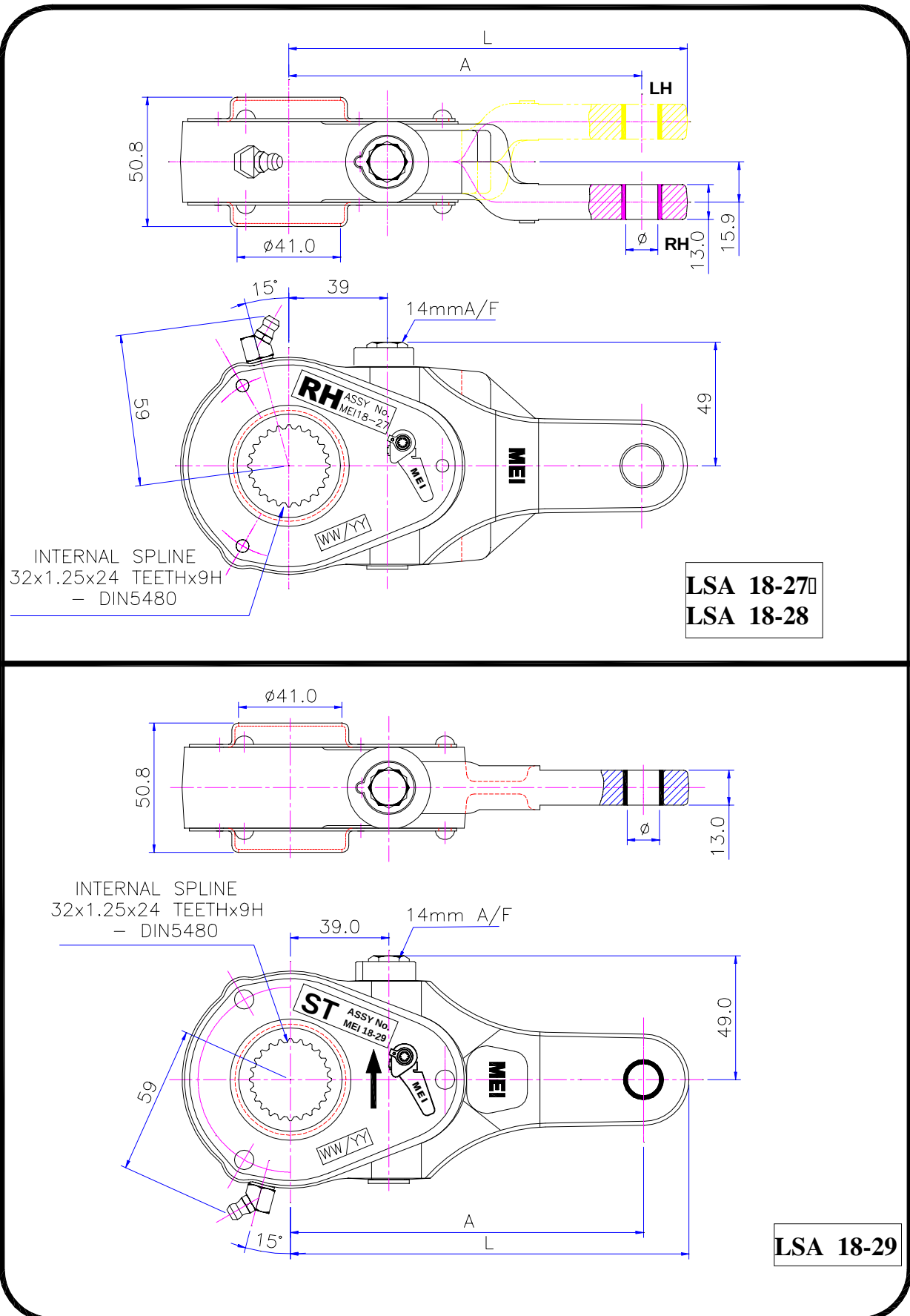


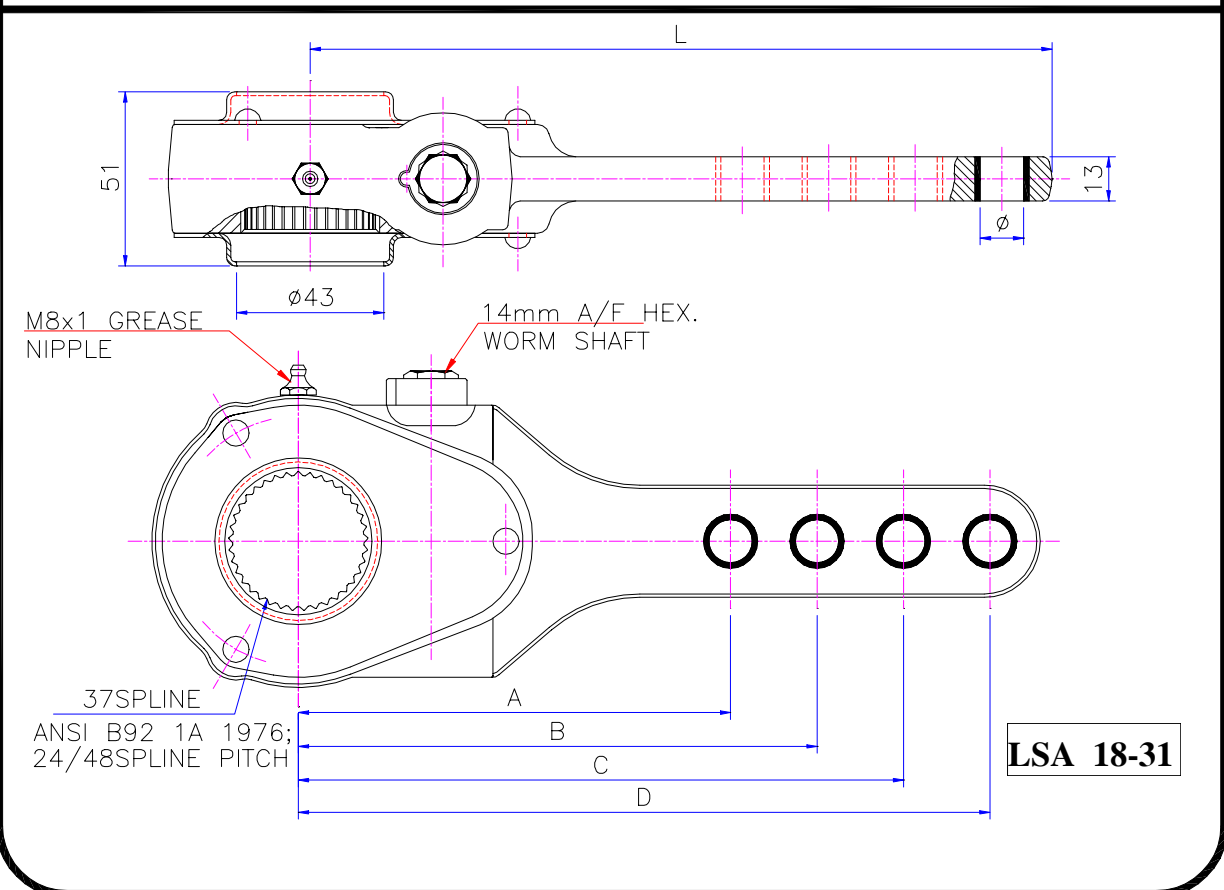
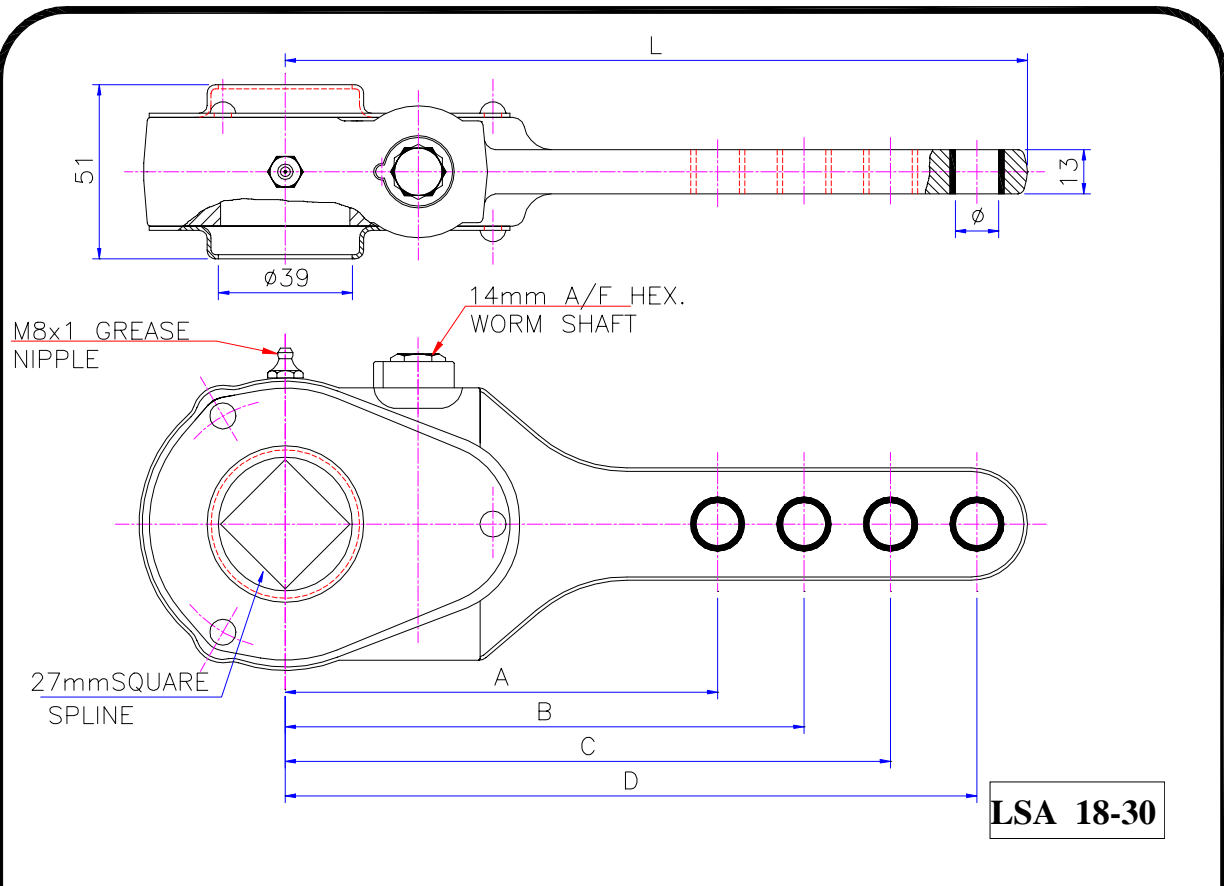


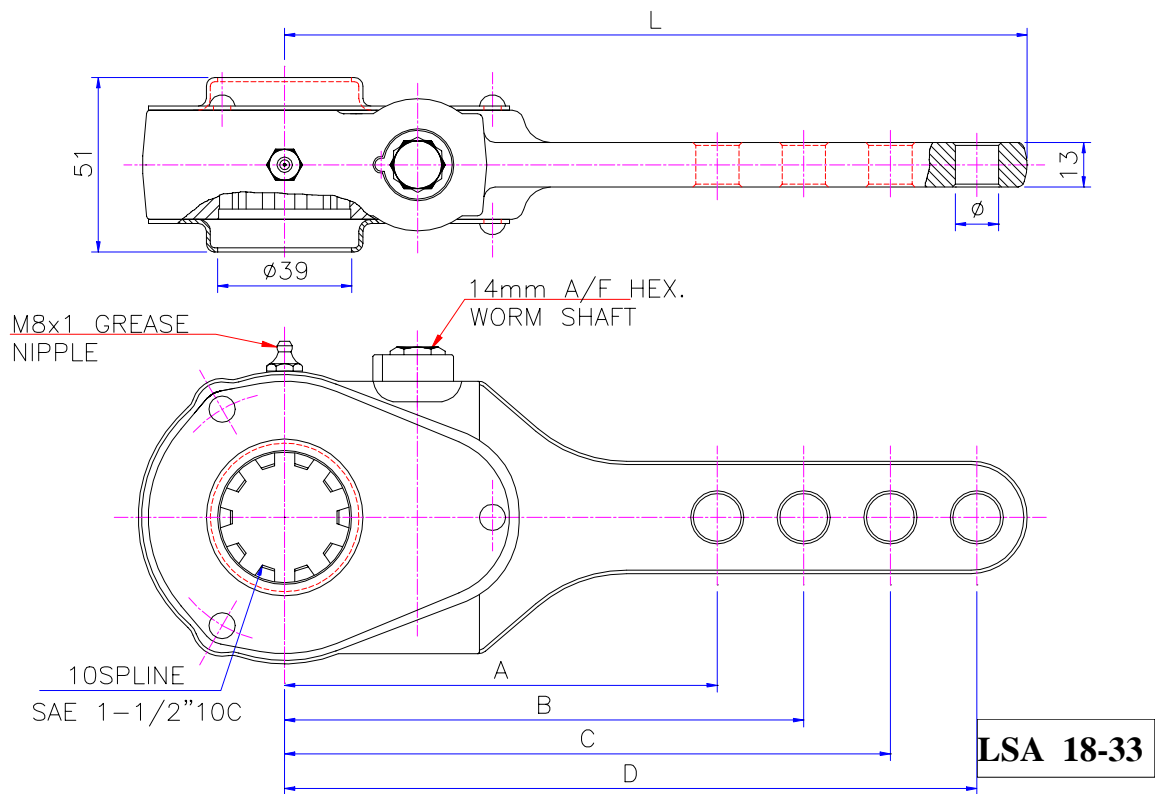
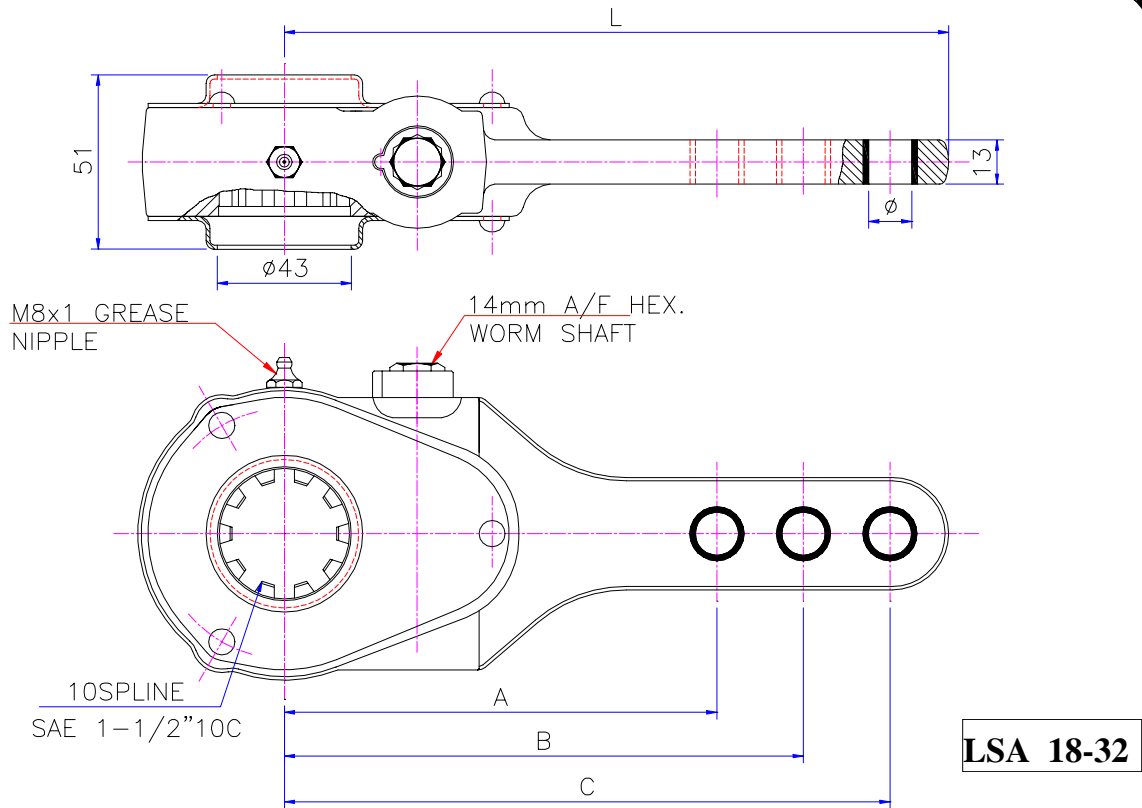
LUDAL LIMITED

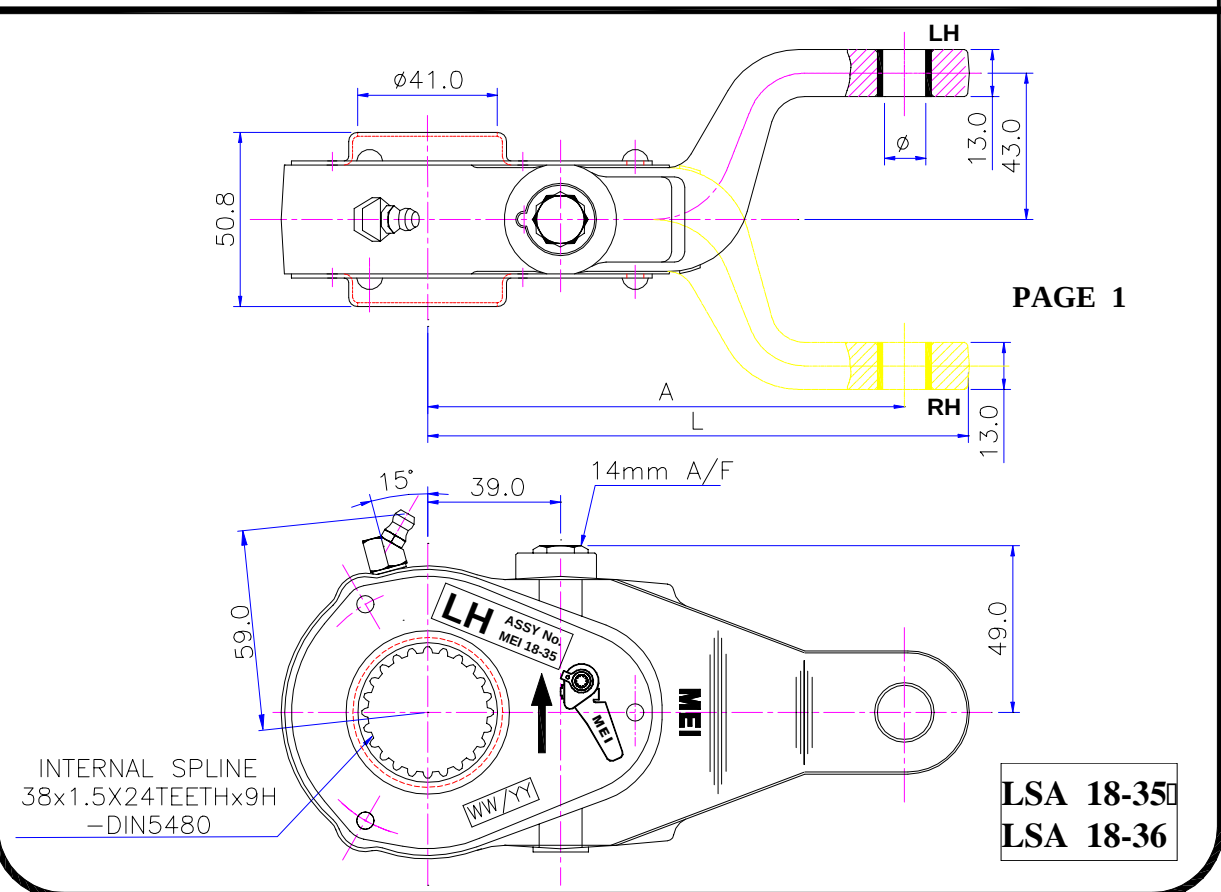
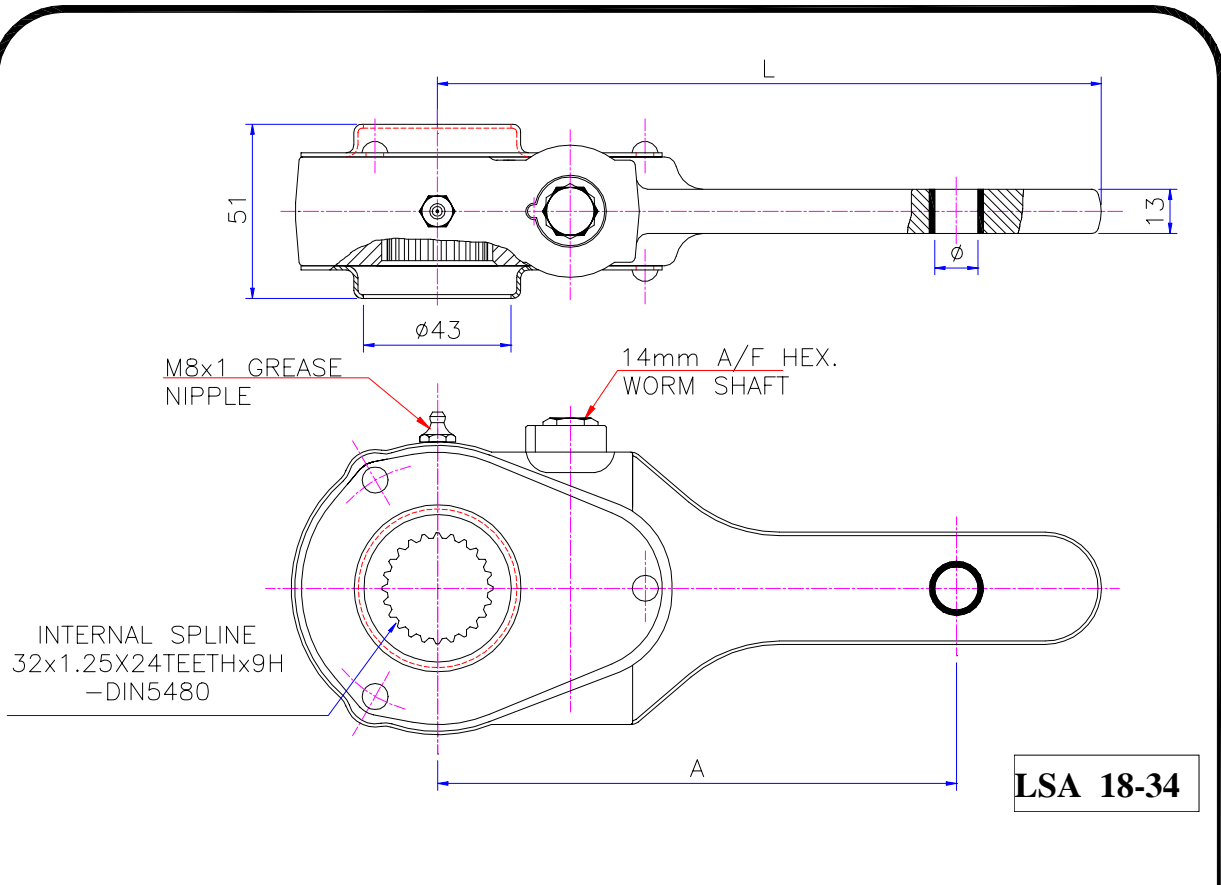
OTHERS - 18 SERIES

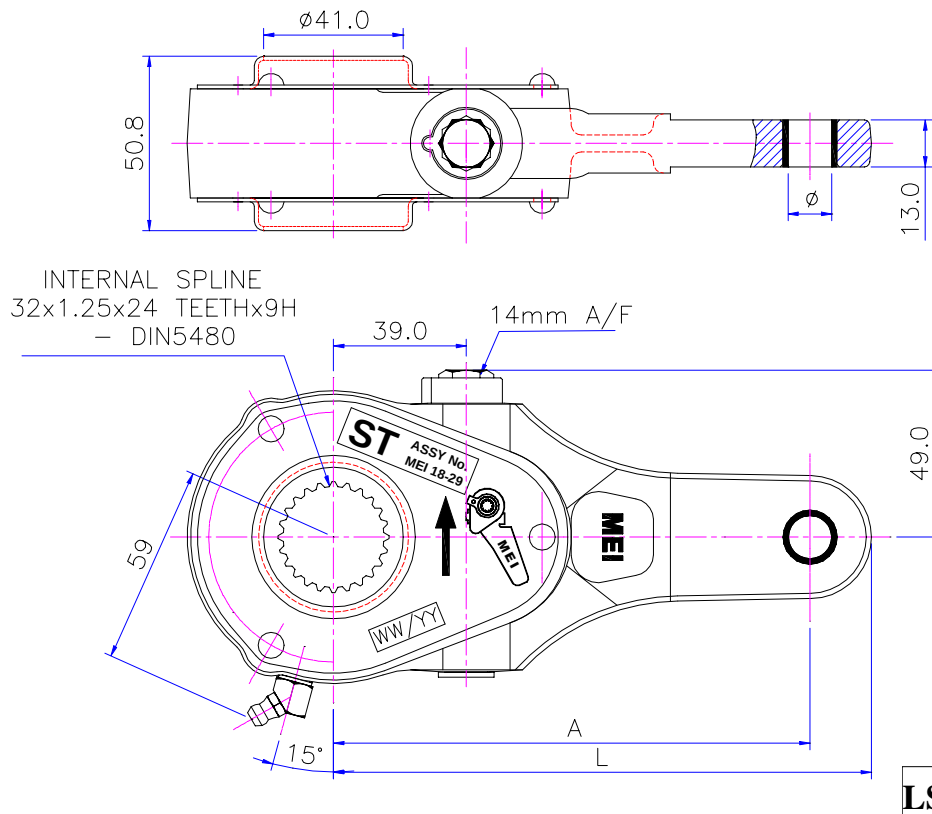
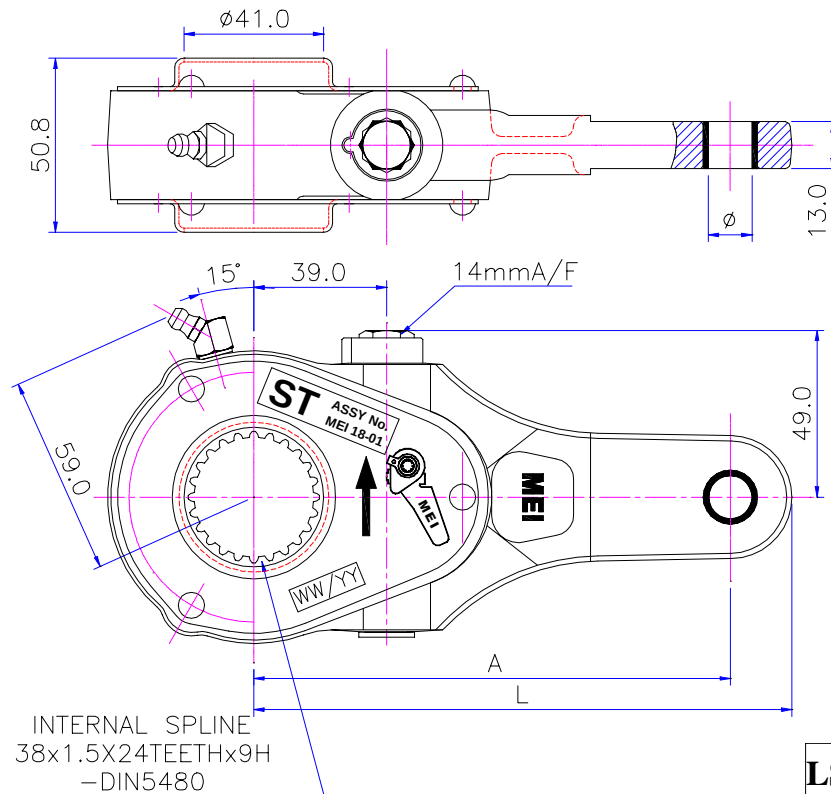


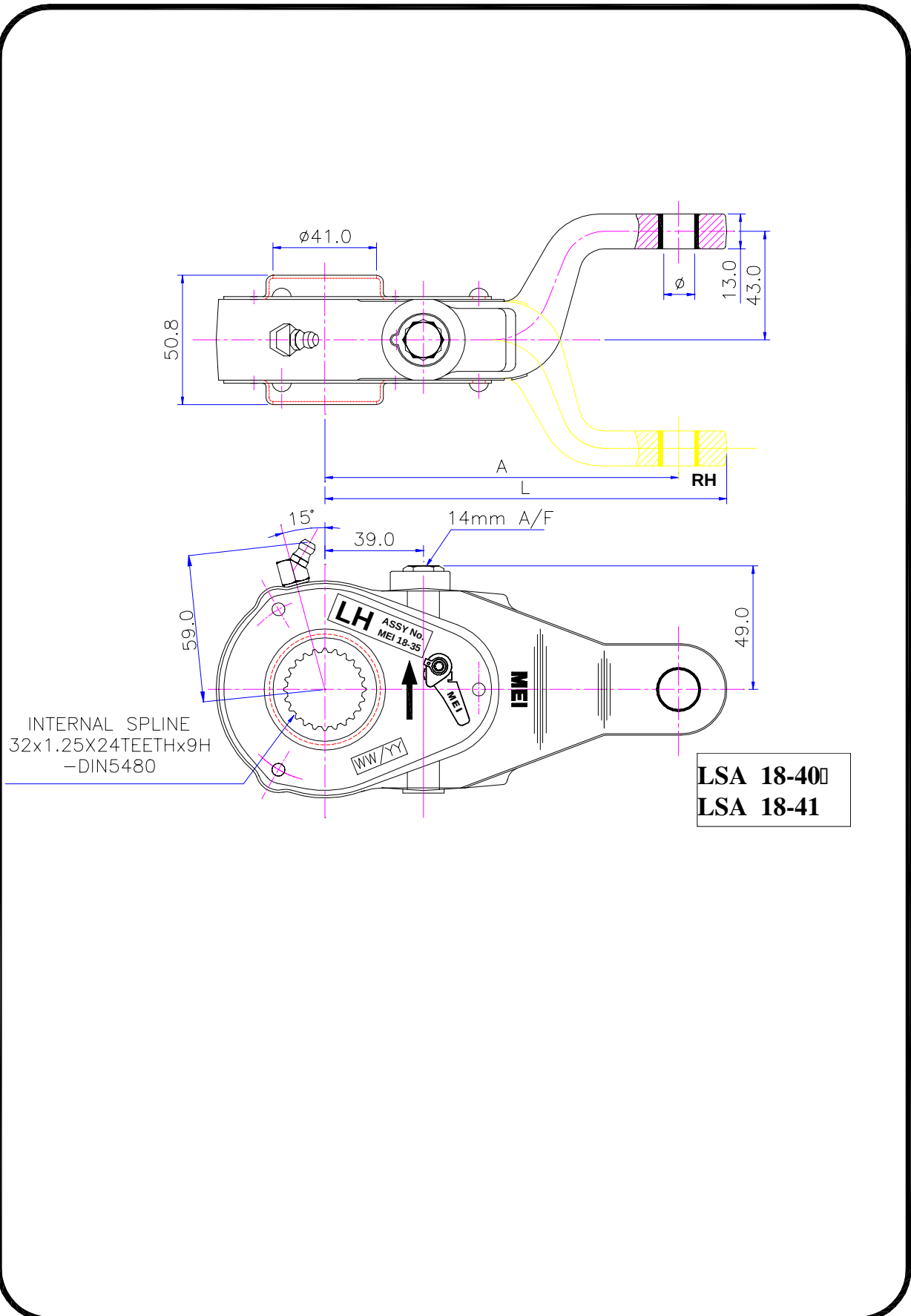










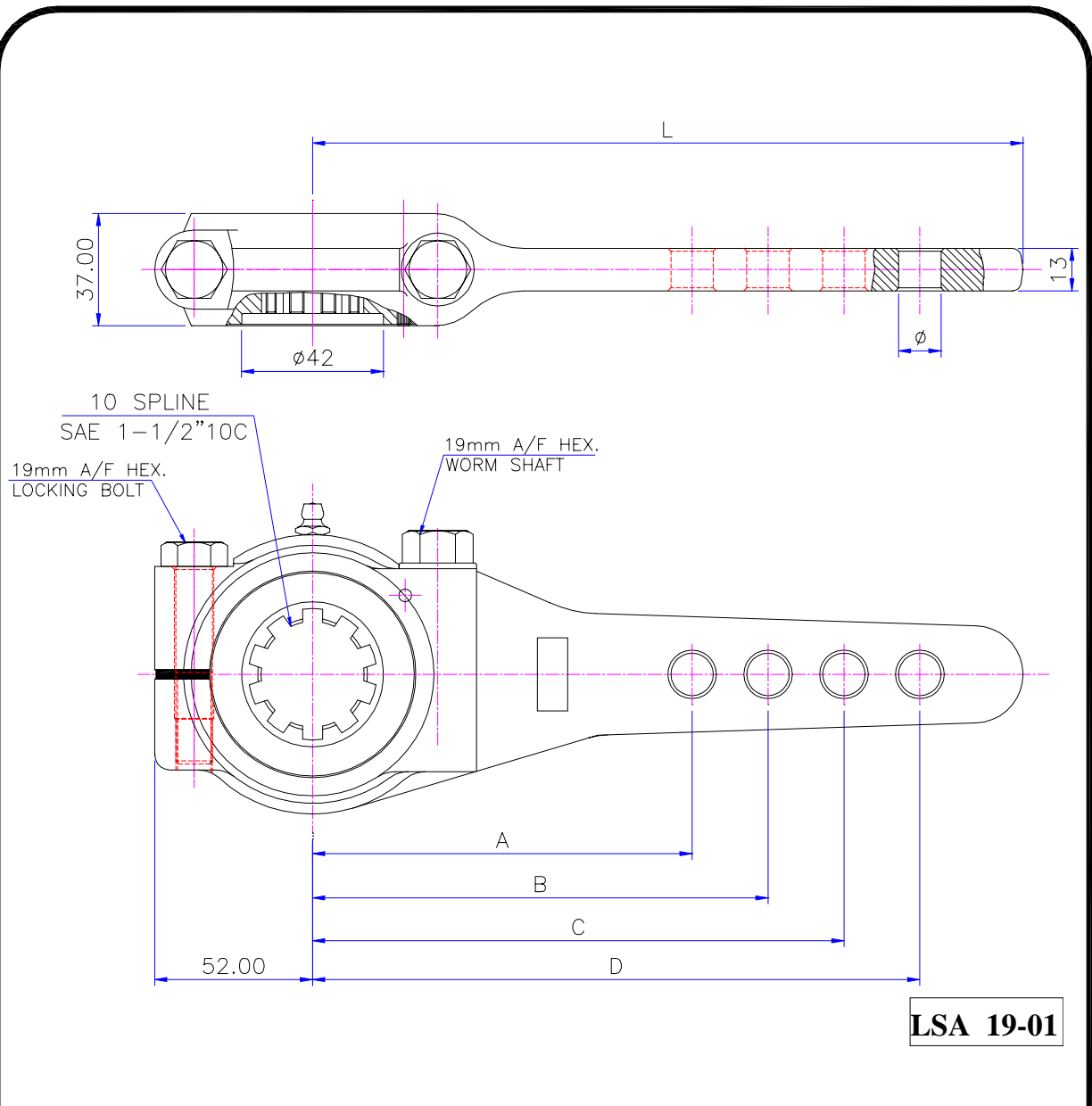




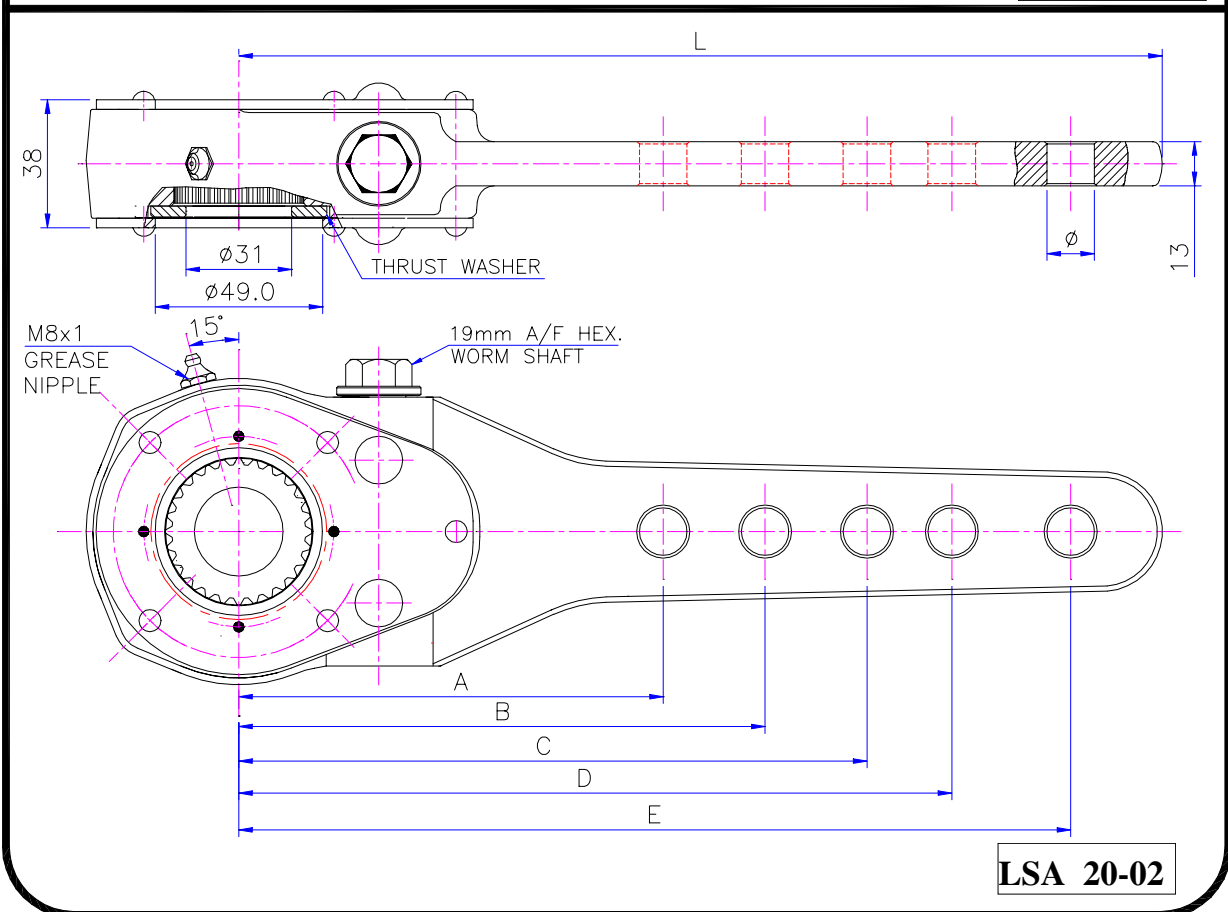
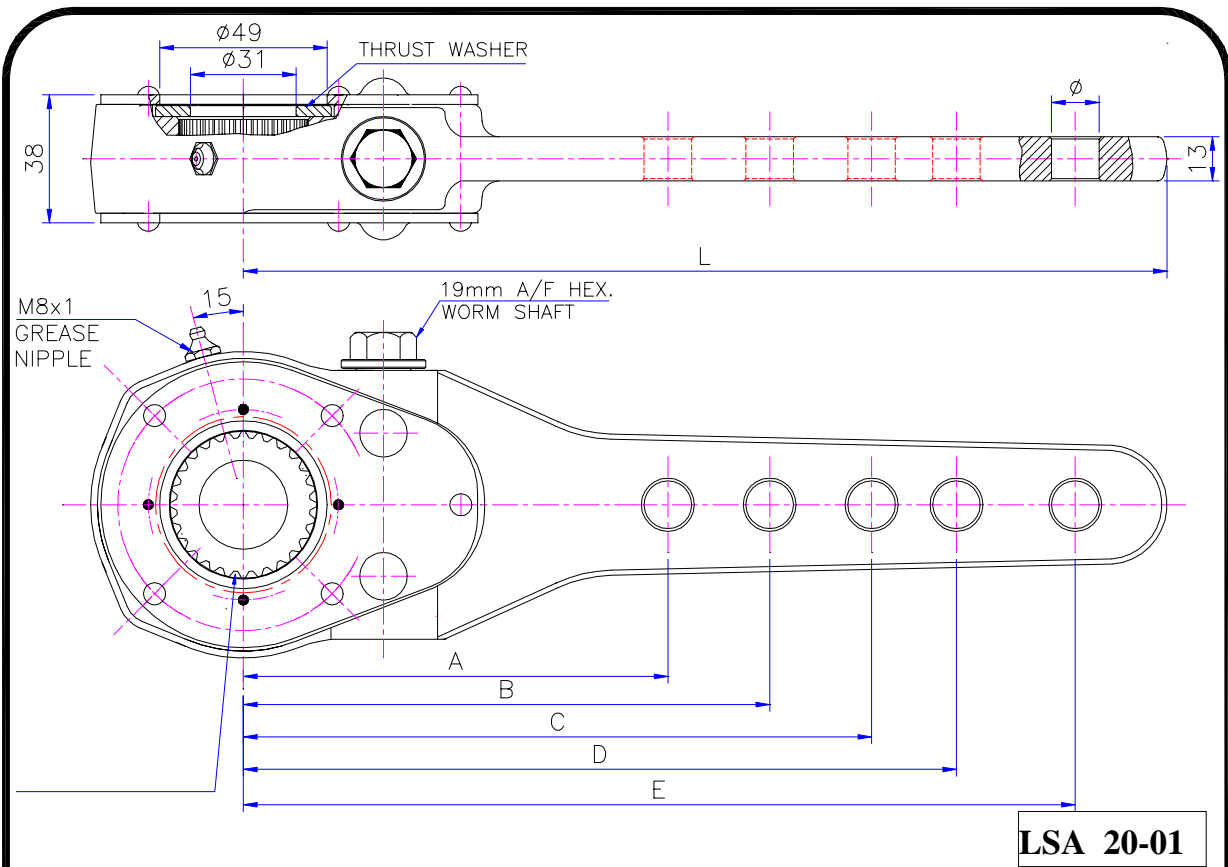
MEI PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET	LENGTH	TYPE
		A - Ø	B - Ø	C - Ø	D - Ø	E - Ø	F - Ø	G - Ø	K	L	
LSA18-01		140/15.83								158	straight
LSA18-02		140/15.83							15.9	158	RH
LSA18-03		140/15.83							15.9	158	LH
LSA18-04		127/12.7	152.4/12.7	177.8/12.7						195	Straight
LSA18-05		127/12.7	152.4/12.7							195	Straight
LSA18-06		152.4/12.7								195	Straight
LSA18-07		139.7/12.7	165.1/12.7							196	Straight
LSA18-08		139.7/12.7	165.1/12.7							195	Straight
LSA18-09		127/12.7	152.4/12.7	177.8/12.7						195	Straight
LSA18-10		160.0/15.83								176	Straight
LSA18-11		127/12.7	152.4/12.7	177.8/12.7						195	Straight
LSA18-12		127/12.7	152.4/12.7							195	Straight
LSA18-13		127/12.7	152.4/12.7							195	Straight
LSA18-14		114.3/12.7	139.7/12.7							195	Straight
LSA18-15		152.4/12.7	177.8/12.7						15.9	195	RH
LSA18-16		152.4/12.7	177.8/12.7						15.9	195	LH
LSA18-17		127/12.7	152.4/12.7	177.8/12.7					15.9	195	RH
LSA18-18		127/12.7	152.4/12.7	177.8/12.7					15.9	195	LH
LSA18-19		114.3/12.7	139.7/12.7						15.9	195	RH
LSA18-20		114.3/12.7	139.7/12.7						15.9	195	LH
LSA18-21		127/14.0	152.4/14.0	177.8/14.0	203/14.0					220	Straight
LSA18-22		127/14.0	152.4/14.0	177.8/14.0	203/14.0					220	Straight
LSA18-23		127/14.0	152.4/14.0	177.8/14.0	203/14.0					220	Straight
LSA18-24		127/12.7	152.4/12.7	177.8/12.7	203/12.7					220	Straight
LSA18-27	2641 4231 01 18	140/12.7							15.9	158	RH
LSA18-28	2641 4231 01 17N	140/12.7							15.9	158	LH
LSA18-29	2641 4211 01 60	140/12.7								158	Straight
LSA18-30		127/12.7	152/12.7	178/12.7	203/12.7					220	Straight
LSA18-31		127/12.7	152/12.7	178/12.7	203/12.7					220	Straight
LSA18-32		127/12.7	152/12.7	178/12.7						195	Straight
LSA18-33		127/14.0	152.4/14.0	177.8/14.0	203/14.0					220	Straight
LSA18-34		139.7/12.7								195	Straight
LSA18-35	2576 4230 01 36	140/12.7							43.0	158	LH
LSA18-36	2576 4230 01 37N	140/12.7							43.0	158	RH
LSA18-38		140/12.7								158	Straight



MEI PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET	LENGTH	TYPE
		A - Ø	B - Ø	C - Ø	D - Ø	E - Ø	F - Ø	G - Ø	K	L	
LSA 18-39		140/12.7								158	straight
LSA 18-40	2153 4230 0124	140/12.7							43.0	158	LH
LSA 18-41	2153 4230 0125N	140/12.7							43.0	158	RH



MEI PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET K	LENGTH L	TYPE
		A - Ø	B - Ø	C - Ø	D - Ø	E - Ø	F - Ø	G - Ø			
LSA 19-01		127/14.0	150/14.0	175/14.0	200/14.0					232	straight





Technical drawing of the LSA 20-03 worm gear assembly, showing side and front views with dimensions and labels.

Side View Dimensions and Labels:

- Overall length: L
- Worm gear outer diameter: $\phi 49$
- Worm gear inner diameter: $\phi 26$
- Worm gear width: 38
- Worm shaft diameter: ϕ
- Worm shaft length: 13
- Label: THRUST WASHER

Front View Dimensions and Labels:

- Worm gear pitch diameter: 15°
- Worm gear outer diameter: $\phi 49$
- Worm gear inner diameter: $\phi 26$
- Worm gear width: 38
- Worm shaft diameter: ϕ
- Worm shaft length: 13
- Label: M8x1 GREASE NIPPLE
- Label: 19mm A/F HEX. WORM SHAFT
- Dimensions A, B, C, D (from left to right):
 - A: Distance from center of worm gear to center of first worm shaft hole.
 - B: Distance from center of worm gear to center of second worm shaft hole.
 - C: Distance from center of worm gear to center of third worm shaft hole.
 - D: Distance from center of worm gear to center of fourth worm shaft hole.

LSA 20-03





MEI PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET	LENGTH	TYPE
		A - Ø	B - Ø	C - Ø	D - Ø	E - Ø	F - Ø	G - Ø	K	L	
LSA 20-01		125/14.0	155/14.0	185/14.0	210/14.0	245/14.0				271	straight
LSA 20-02		125/14.0	155/14.0	185/14.0	210/14.0	245/14.0				271	straight
LSA 20-03		170/14.0	210/14.0	240/14.0	260/14.0					278	straight
LSA 20-04		170/14.0	210/14.0	240/14.0	260/14.0					278	straight



Technical drawing of the LSA 21-01 component, showing side and front views with dimensions and labels.

Side View Dimensions:

- Overall length: L
- Overall width: 51
- Shaft diameter: ϕ
- Shaft length: 13
- Internal diameter: $\phi 39.0$

Labels:

- 14mm A/F HEX. WORM SHAFT
- M8x1 GREASE NIPPLE

Front View Dimensions:

- Overall width: 32
- Internal diameter: $\phi 39.0$
- Shaft diameter: ϕ
- Shaft length: 13
- Internal diameter: $\phi 39.0$

Labels:

- 8 SPLINE
- 32 UNI 222 SPLINE
- A
- B
- C

LSA 21-01





MEI PART NO.	ORIGINAL REF NO.	DIMENSIONS							OFFSET	LENGTH	TYPE
		A - Ø	B - Ø	C - Ø	D - Ø	E - Ø	F - Ø	G - Ø	K	L	
LSA 21-01		127/14.0	152/14.0	178/14.0						218	straight
LSA 21-02		152/8.0	190/14.0	230/14.0	260/14.0	290/14.0				310	straight

C R O S S R E F E R E N C E L I S T

7/6/2005

SI. No	MEI Number	LUDAL Number
1	MEI 01-01	LSA 01-01
2	MEI 01-02	LSA 01-02
3	MEI 02-01	LSA 02-01
4	MEI 02-02	LSA 02-02
5	MEI 02-03	LSA 02-03
6	MEI 02-04	LSA 02-04
7	MEI 02-05	LSA 02-05
8	MEI 02-06	LSA 02-06
9	MEI 02-07	LSA 02-07
10	MEI 02-08	LSA 02-08
11	MEI 02-09	LSA 02-09
12	MEI 02-10	LSA 02-10
13	MEI 02-11	LSA 02-11
14	MEI 02-12	LSA 02-12
15	MEI 02-13	LSA 02-13
16	MEI 02-14	LSA 02-14
17	MEI 02-15	LSA 02-15
18	MEI 02-16	LSA 02-16
19	MEI 02-17	LSA 02-17
20	MEI 02-18	LSA 02-18
21	MEI 02-19	LSA 02-19
22	MEI 02-20	LSA 02-20
23	MEI 02-21	LSA 02-21
24	MEI 02-22	LSA 02-22
25	MEI 03-01	LSA 03-01
26	MEI 03-02	LSA 03-02
27	MEI 03-03	LSA 03-03
28	MEI 03-04	LSA 03-04
29	MEI 03-05	LSA 03-05
30	MEI 03-06	LSA 03-06
31	MEI 03-07	LSA 03-07
32	MEI 04-01	LSA 04-01
33	MEI 05-01	LSA 05-01
34	MEI 06-01	LSA 06-01
35	MEI 06-02	LSA 06-02
36	MEI 06-03	LSA 06-03
37	MEI 07-01	LSA 07-01

38	M E I 07-02	L S A 07-02
39	M E I 07-03	L S A 07-03
40	M E I 07-04	L S A 07-04
41	M E I 07-05	L S A 07-05
42	M E I 07-06	L S A 07-06
43	M E I 07-07	L S A 07-07
44	M E I 07-08	L S A 07-08
45	M E I 07-09	L S A 07-09
46	M E I 07-10	L S A 07-10
47	M E I 07-11	L S A 07-11
48	M E I 07-12	L S A 07-12
49	M E I 07-13	L S A 07-13
50	M E I 07-14	L S A 07-14
51	M E I 08-01	L S A 08-01
52	M E I 08-02	L S A 08-02
53	M E I 09-01	L S A 09-01
54	M E I 09-02	L S A 09-02
55	M E I 09-03	L S A 09-03
56	M E I 09-04	L S A 09-04
57	M E I 09-06	L S A 09-06
58	M E I 09-07	L S A 09-07
59	M E I 09-08	L S A 09-08
60	M E I 09-09	L S A 09-09
61	M E I 09-10	L S A 09-10
62	M E I 10-01	L S A 10-01
63	M E I 11-01	L S A 11-01
64	M E I 11-02	L S A 11-02
65	M E I 11-03	L S A 11-03
66	M E I 12-01	L S A 12-01
67	M E I 12-02	L S A 12-02
68	M E I 12-03	L S A 12-03
69	M E I 12-04	L S A 12-04
70	M E I 12-05	L S A 12-05
71	M E I 12-06	L S A 12-06
72	M E I 12-07	L S A 12-07
73	M E I 12-08	L S A 12-08
74	M E I 12-09	L S A 12-09
75	M E I 13-01	L S A 13-01
76	M E I 13-02	L S A 13-02
77	M E I 13-03	L S A 13-03
78	M E I 13-04	L S A 13-04
79	M E I 13-05	L S A 13-05
80	M E I 13-06	L S A 13-06
81	M E I 13-07	L S A 13-07
82	M E I 13-08	L S A 13-08
83	M E I 13-09	L S A 13-09

84	M E I 13-10	L S A 13-10
85	M E I 13-11	L S A 13-11
86	M E I 13-12	L S A 13-12
87	M E I 13-13	L S A 13-13
88	M E I 13-14	L S A 13-14
89	M E I 13-15	L S A 13-15
90	M E I 14-01	L S A 14-01
91	M E I 14-02	L S A 14-02
92	M E I 14-03	L S A 14-03
93	M E I 14-04	L S A 14-04
94	M E I 14-05	L S A 14-05
95	M E I 14-06	L S A 14-06
96	M E I 14-07	L S A 14-07
97	M E I 14-08	L S A 14-08
98	M E I 14-09	L S A 14-09
99	M E I 14-10	L S A 14-10
100	M E I 14-11	L S A 14-11
101	M E I 14-12	L S A 14-12
102	M E I 14-13	L S A 14-13
103	M E I 14-14	L S A 14-14
104	M E I 14-15	L S A 14-15
105	M E I 14-16	L S A 14-16
106	M E I 14-17	L S A 14-17
107	M E I 15-01	L S A 15-01
108	M E I 15-02	L S A 15-02
109	M E I 15-03	L S A 15-03
110	M E I 15-04	L S A 15-04
111	M E I 15-05	L S A 15-05
112	M E I 15-06	L S A 15-06
113	M E I 15-07	L S A 15-07
114	M E I 15-08	L S A 15-08
115	M E I 15-09	L S A 15-09
116	M E I 15-10	L S A 15-10
117	M E I 15-11	L S A 15-11
118	M E I 15-12	L S A 15-12
119	M E I 15-13	L S A 15-13
120	M E I 15-14	L S A 15-14
121	M E I 15-17	L S A 15-17
122	M E I 15-18	L S A 15-18
123	M E I 15-20	L S A 15-20
124	M E I 15-21	L S A 15-21
125	M E I 15-22	L S A 15-22
126	M E I 15-23	L S A 15-23
127	M E I 15-24	L S A 15-24
128	M E I 15-25	L S A 15-25
129	M E I 15-30	L S A 15-30

130	M E I 15-31	L S A 15-31
131	M E I 15-32	L S A 15-32
132	M E I 15-33	L S A 15-33
133	M E I 15-34	L S A 15-34
134	M E I 15-41	L S A 15-41
135	M E I 15-42	L S A 15-42
136	M E I 15-43	L S A 15-43
137	M E I 15-44	L S A 15-44
138	M E I 15-45	L S A 15-45
139	M E I 15-46	L S A 15-46
140	M E I 16-01	L S A 16-01
141	M E I 16-02	L S A 16-02
142	M E I 16-03	L S A 16-03
143	M E I 16-04	L S A 16-04
144	M E I 16-05	L S A 16-05
145	M E I 16-06	L S A 16-06
146	M E I 16-07	L S A 16-07
147	M E I 16-08	L S A 16-08
148	M E I 16-09	L S A 16-09
149	M E I 16-10	L S A 16-10
150	M E I 16-11	L S A 16-11
151	M E I 16-12	L S A 16-12
152	M E I 16-13	L S A 16-13
153	M E I 16-14	L S A 16-14
154	M E I 16-15	L S A 16-15
155	M E I 16-16	L S A 16-16
156	M E I 16-17	L S A 16-17
157	M E I 16-18	L S A 16-18
158	M E I 16-19	L S A 16-19
159	M E I 16-20	L S A 16-20
160	M E I 16-24	L S A 16-24
161	M E I 16-25	L S A 16-25
162	M E I 16-26	L S A 16-26
163	M E I 16-27	L S A 16-27
164	M E I 16-28	L S A 16-28
165	M E I 16-29	L S A 16-29
166	M E I 16-30	L S A 16-30
167	M E I 17-01	L S A 17-01
168	M E I 17-02	L S A 17-02
169	M E I 17-03	L S A 17-03
170	M E I 17-04	L S A 17-04
171	M E I 17-05	L S A 17-05
172	M E I 17-06	L S A 17-06
173	M E I 17-07	L S A 17-07
174	M E I 17-08	L S A 17-08
175	M E I 17-09	L S A 17-09

176	MEI 17-10	LSA 17-10
177	MEI 17-11	LSA 17-11
178	MEI 17-12	LSA 17-12
179	MEI 17-13	LSA 17-13
180	MEI 17-14	LSA 17-14
181	MEI 17-15	LSA 17-15
182	MEI 17-16	LSA 17-16
183	MEI 17-17	LSA 17-17
184	MEI 17-18	LSA 17-18
185	MEI 17-19	LSA 17-19
186	MEI 17-20	LSA 17-20
187	MEI 17-21	LSA 17-21
188	MEI 17-22	LSA 17-22
189	MEI 17-23	LSA 17-23
190	MEI 17-24	LSA 17-24
191	MEI 17-25	LSA 17-25
192	MEI 17-26	LSA 17-26
193	MEI 17-27	LSA 17-27
194	MEI 17-28	LSA 17-28
195	MEI 17-29	LSA 17-29
196	MEI 17-30	LSA 17-30
197	MEI 17-31	LSA 17-31
198	MEI 17-32	LSA 17-32
199	MEI 17-33	LSA 17-33
200	MEI 17-34	LSA 17-34
201	MEI 17-35	LSA 17-35
202	MEI 17-36	LSA 17-36
203	MEI 17-37	LSA 17-37
204	MEI 17-38	LSA 17-38
205	MEI 17-39	LSA 17-39
206	MEI 17-40	LSA 17-40
207	MEI 17-41	LSA 17-41
208	MEI 17-42	LSA 17-42
209	MEI 17-43	LSA 17-43
210	MEI 17-44	LSA 17-44
211	MEI 17-45	LSA 17-45
212	MEI 17-46	LSA 17-46
213	MEI 17-47	LSA 17-47
214	MEI 17-48	LSA 17-48
215	MEI 17-49	LSA 17-49
216	MEI 17-50	LSA 17-50
217	MEI 17-51	LSA 17-51
218	MEI 17-52	LSA 17-52
219	MEI 17-53	LSA 17-53
220	MEI 17-54	LSA 17-54
221	MEI 17-55	LSA 17-55

222	M E I 17-56	L S A 17-56
223	M E I 17-59	L S A 17-59
224	M E I 17-61	L S A 17-61
225	M E I 17-64	L S A 17-64
226	M E I 17-65	L S A 17-65
227	M E I 17-66	L S A 17-66
228	M E I 17-67	L S A 17-67
229	M E I 17-68	L S A 17-68
230	M E I 17-69	L S A 17-69
231	M E I 17-70	L S A 17-70
232	M E I 17-71	L S A 17-71
233	M E I 17-72	L S A 17-72
234	M E I 17-73	L S A 17-73
235	M E I 17-74	L S A 17-74
236	M E I 17-75	L S A 17-75
237	M E I 17-76	L S A 17-76
238	M E I 17-77	L S A 17-77
239	M E I 17-78	L S A 17-78
240	M E I 17-79	L S A 17-79
241	M E I 17-80	L S A 17-80
242	M E I 17-81	L S A 17-81
243	M E I 17-82	L S A 17-82
244	M E I 17-83	L S A 17-83
245	M E I 17-84	L S A 17-84
246	M E I 17-85	L S A 17-85
247	M E I 17-86	L S A 17-86
248	M E I 17-87	L S A 17-87
249	M E I 17-88	L S A 17-88
250	M E I 17-89	L S A 17-89
251	M E I 17-90	L S A 17-90
252	M E I 18-01	L S A 18-01
253	M E I 18-02	L S A 18-02
254	M E I 18-03	L S A 18-03
255	M E I 18-04	L S A 18-04
256	M E I 18-05	L S A 18-05
257	M E I 18-06	L S A 18-06
258	M E I 18-07	L S A 18-07
259	M E I 18-08	L S A 18-08
260	M E I 18-09	L S A 18-09
261	M E I 18-10	L S A 18-10
262	M E I 18-11	L S A 18-11
263	M E I 18-12	L S A 18-12
264	M E I 18-13	L S A 18-13
265	M E I 18-14	L S A 18-14
266	M E I 18-15	L S A 18-15
267	M E I 18-16	L S A 18-16

268	MEI 18-17	LSA 18-17
269	MEI 18-18	LSA 18-18
270	MEI 18-19	LSA 18-19
271	MEI 18-19	LSA 18-20
272	MEI 18-21	LSA 18-21
273	MEI 18-22	LSA 18-22
274	MEI 18-23	LSA 18-23
275	MEI 18-24	LSA 18-24
276	MEI 19-01	LSA 19-01
277	MEI 20-01	LSA 20-01
278	MEI 20-02	LSA 20-02
279	MEI 21-01	LSA 21-01
280	MEI 21-02	LSA 21-02

For any other references, not included in the above list,
please change the part number in the same way -
the numbers remain the same, and only MEI becomes LSA.