

**ASD 8****ARNESON SURFACE DRIVE****DESCRIPTION****BRONZE IN-LINE (ASD08B1L)****ALUMINUM-BRONZE DROP-CENTER (ASD08B3L)**

Bronze thrust assembly

Bronze (B) or aluminum (C) drop box  
(drop-center drives only)

Internal lube oil reservoir

Steering cylinder with external hoses and fittings

Trim cylinder with external hoses and fittings

Standard (or optional longer) fin

Standard 25-tooth (or optional 26-tooth) splined  
propeller shaft

Installation manual, owners manual and drive ball  
wrench (one per ship set)

**ACCESSORIES**

Anode Kit

Cylinder position indicator kits with gauge

Hydraulic power steering system

Gearbox adapter

Driveline (cardan shaft)

Companion (input) flange

Tie-bar (mechanical or hydraulic – for multiple  
engine vessels)

Inboard cylinder mounting kit

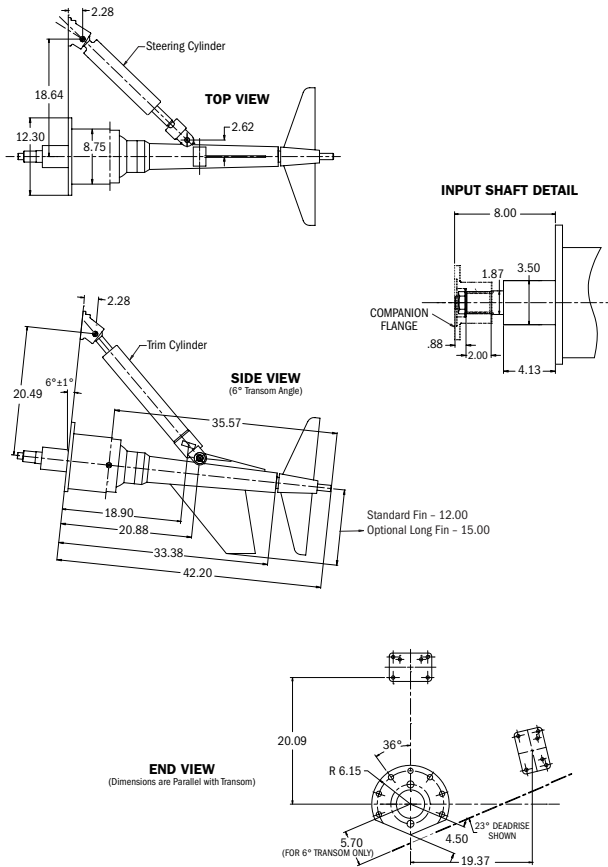
Propeller

**TECHNICAL DATA**

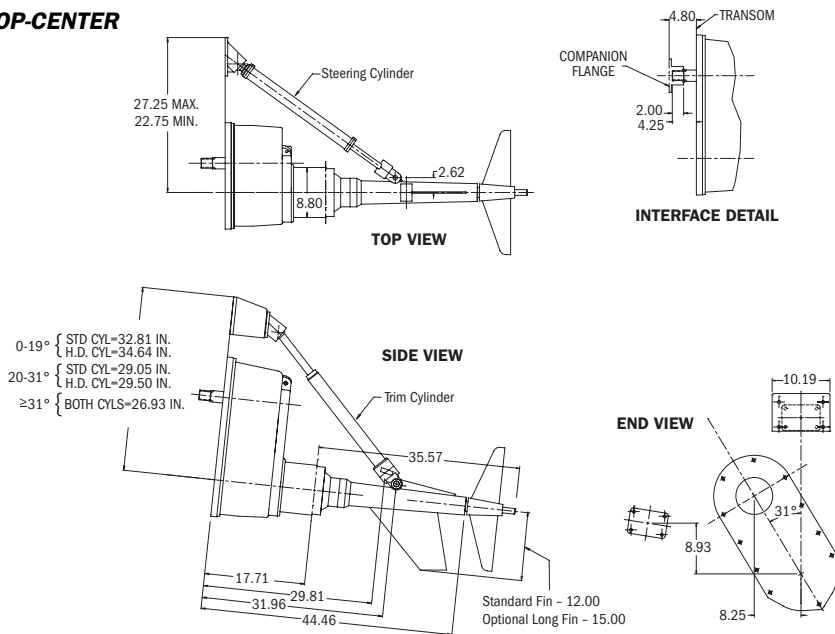
	<b>ASD08B1L</b>	<b>ASD08B3L</b>	
DROP DISTANCE		10 INCH	16 INCH
Reduction Ratio/ Maximum Input Torque	1.00:1 1200 ft-lbs	1.00:1 / 1200 ft-lbs	
		1.32:1 / 909 ft-lbs	
		1.42:1 / 845 ft-lbs	
		1.53:1 / 785 ft-lbs	
Unit Weight	285 lbs	C458 lbs	C485 lbs
		B610 lbs	B680 lbs
Overall Length	42 in	54 in	
Nominal Shaft Diameter	2 in	2 in	
Steering Angle Degree	40 degrees	40 degrees	
Trim Angle Degree	15 degrees	15 degrees	

# ASD 8 DROP-CENTER & IN-LINE SURFACE DRIVE SCHEMATICS

## IN-LINE



## DROP-CENTER



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**ASD 10****ARNESON SURFACE DRIVE****DESCRIPTION****BRONZE IN-LINE (ASD10B1L)****ALUMINUM OR BRONZE DROP-CENTER (ASD10B1S)**

Bronze thrust assembly

Bronze (B) or aluminum (C) drop box  
(drop-center drives only)

Internal lube oil reservoir

Steering cylinder with external hoses and fittings

Trim cylinder with external hoses and fittings

Installation manual, owners manual and drive ball  
wrench (one per ship set)

**ACCESSORIES**

Anode kit

Cylinder position indicator kits with gauge

Hydraulic power steering system

Gearbox adapter

Driveline (cardan shaft)

Companion (input) flange

Tie-bar (mechanical or hydraulic – for multiple  
engine vessels)

Inboard cylinder mounting kit

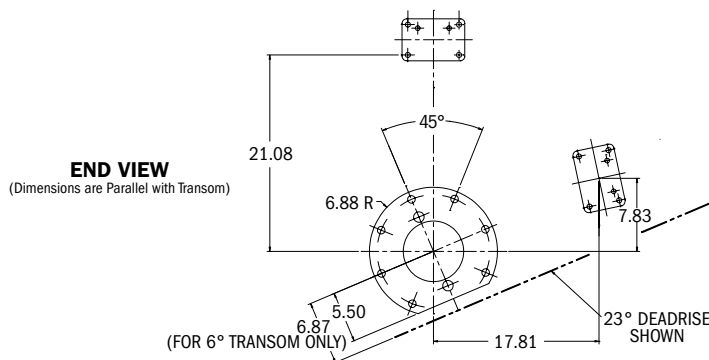
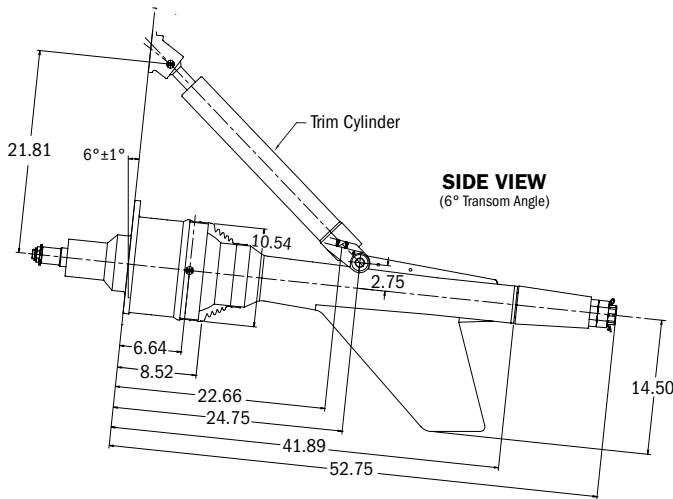
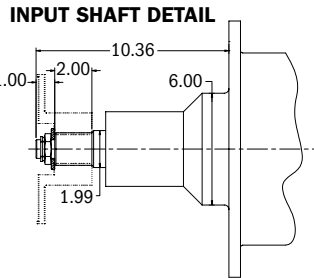
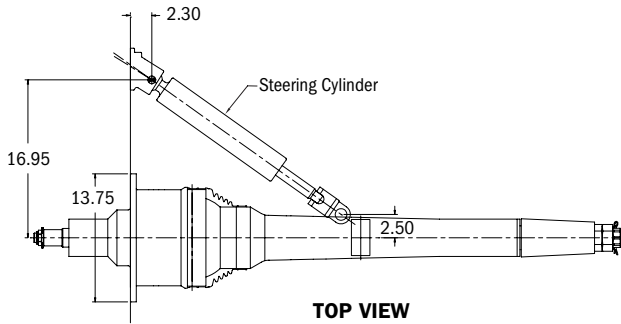
Propeller

**TECHNICAL DATA**

	<b>ASD10B1L</b>	<b>ASD10B3S</b>
Reduction Ratio	In-Line	10 in – 16 in
	1.00:1	1.00:1
Maximum Input Torque	2000 ft-lbs	1500 ft-lbs
Unit Weight	417 lbs	10 in: C560 lbs
		10 in: B750 lbs
		16 in: C600 lbs
		16 in: B820 lbs
Overall Length	53 in	63 in
Nominal Shaft Diameter	2.5 in	2.5 in
Steering Angle Degree	40 degrees	40 degrees
Trim Angle Degree	15 degrees	15 degrees

## ASD 10 IN-LINE SURFACE DRIVE SCHEMATICS

CONTACT TWIN DISC FOR DROP-CENTER SURFACE DRIVE SCHEMATICS



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**ASD 11****ARNESON SURFACE DRIVE****DESCRIPTION****BRONZE IN-LINE (ASD11B1L)**

Bronze thrust assembly  
 Internal lube oil reservoir  
 Steering cylinder with external hoses  
 and fittings  
 Trim cylinder with external hoses and fittings  
 Installation manual, owners manual and  
 drive ball wrench (one per ship set)

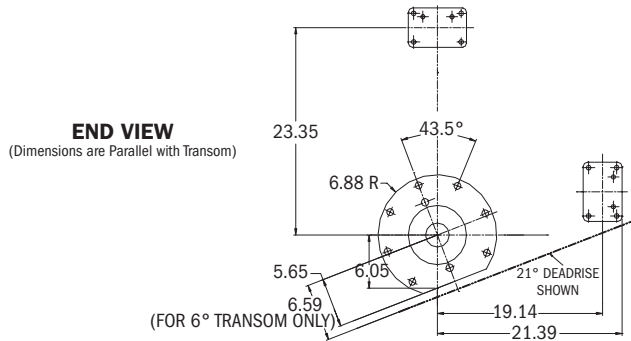
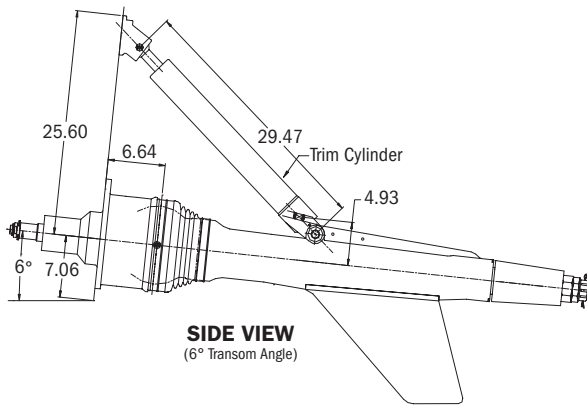
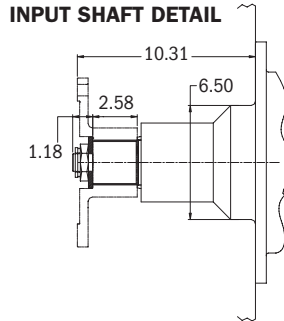
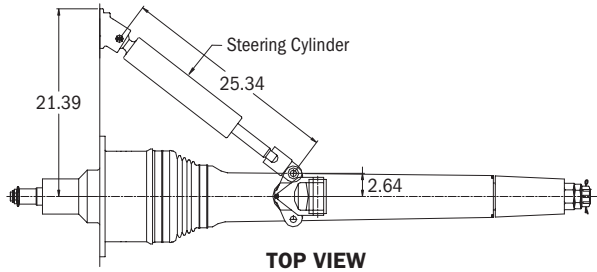
**ACCESSORIES**

Anode kit  
 Cylinder position indicator kits with gauge  
 Hydraulic power steering system  
 Gearbox adapter  
 Driveline (cardan shaft)  
 Companion (input) flange  
 Tie-bar (mechanical or hydraulic – for multiple  
 engine vessels)  
 Inboard cylinder mounting kit  
 Propeller

**TECHNICAL DATA – ASD11B1L**

Reduction Ratio	1.00:1
Maximum Input Torque	3200 ft-lbs
Unit Weight	515 lbs
Overall Length from Transom	57 in
Nominal Shaft Diameter	2.875 in
Steering Angle Degree	40 degrees
Trim Angle Degree	15 degrees

# ASD 11 IN-LINE SURFACE DRIVE SCHEMATICS



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**ASD 12****ARNESON SURFACE DRIVE****DESCRIPTION****BRONZE IN-LINE (ASD12B1LU)**

Bronze thrust assembly  
 Internal lube oil reservoir  
 Steering cylinder with external hoses and fittings  
 Trim cylinder with external hoses and fittings  
 Installation manual, owners manual and drive ball wrench (one per ship set)

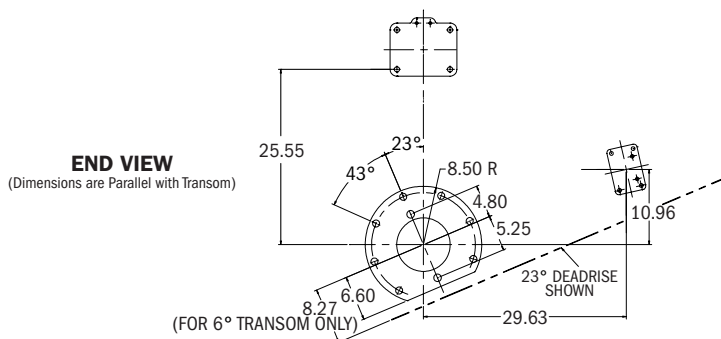
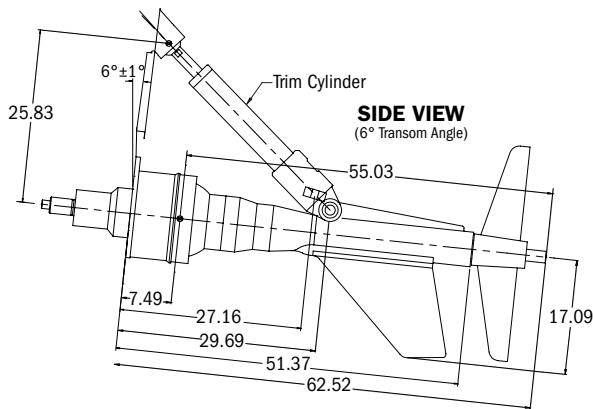
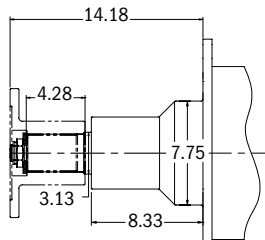
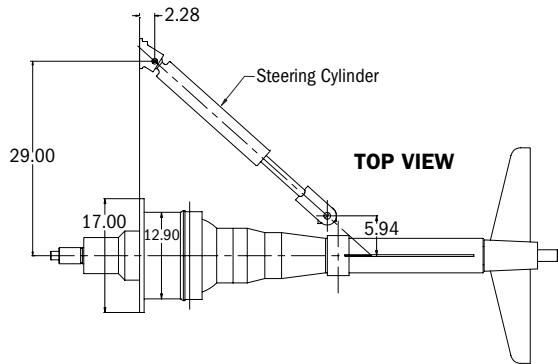
**ACCESSORIES**

Anode kit  
 Cylinder position indicator kits with gauge  
 Hydraulic power steering system  
 Gearbox adapter  
 Driveline (cardan shaft)  
 Companion (input) flange  
 Tie-bar (mechanical or hydraulic – for multiple engine vessels)  
 Inboard cylinder mounting kit  
 Propeller

**TECHNICAL DATA – ASD12B1LU**

Reduction Ratio	1.00:1
Maximum Input Torque	4800 ft-lbs
Unit Weight	785 lbs
Overall Length from Transom	63 in
Nominal Shaft Diameter	3.3 in
Steering Angle Degree	40 degrees
Trim Angle Degree	15 degrees

## ASD 12 IN-LINE SURFACE DRIVE SCHEMATICS



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**ASD 14****ARNESON SURFACE DRIVE****DESCRIPTION****BRONZE IN-LINE (ASD14BIL)**

Bronze thrust assembly  
 Internal lube oil reservoir  
 Steering cylinder with external hoses and fittings  
 Trim cylinder with external hoses and fittings  
 Standard (or optional longer) fin  
 Installation manual, owners manual and drive ball  
 wrench (one per ship set)

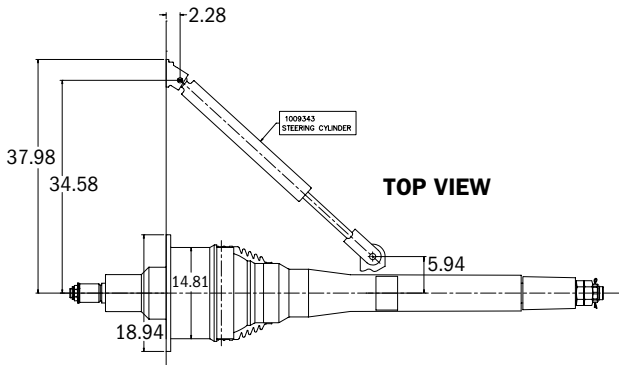
**ACCESSORIES**

Anode kit  
 Cylinder position indicator kits with gauge  
 Hydraulic power steering system  
 Gearbox adapter  
 Driveline (cardan shaft)  
 Companion (input) flange  
 Tie-bar (mechanical or hydraulic – for multiple  
 engine vessels)  
 Inboard cylinder mounting kit  
 Propeller

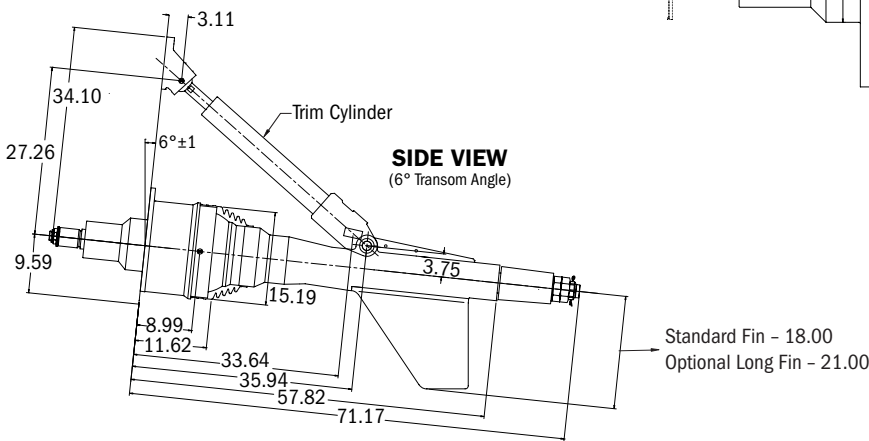
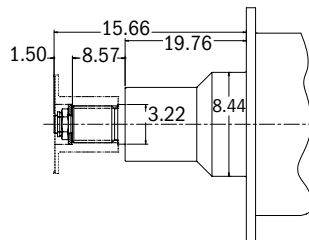
**TECHNICAL DATA – ASD14BIL**

Reduction Ratio	1.00:1
Maximum Input Torque	8000 ft-lbs
Unit Weight	1135 lbs
Overall Length from Transom	71 in
Nominal Shaft Diameter	3.5 in
Steering Angle Degree	40 degrees
Trim Angle Degree	15 degrees

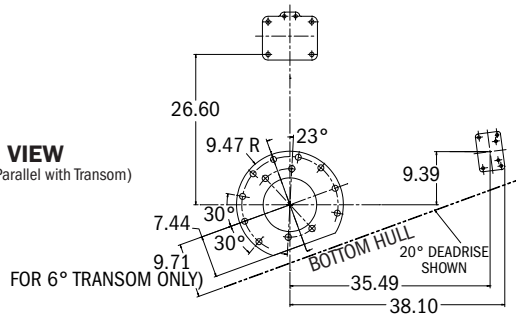
**ASD 14 IN-LINE SURFACE DRIVE SCHEMATICS**



**INPUT SHAFT DETAIL**



**END VIEW**  
(Dimensions are Parallel with Transom)



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**ASD 15****ARNESON SURFACE DRIVE****DESCRIPTION****ALUMINUM IN-LINE (ASD15A1S AND ASD15A1L)**

Aluminum thrust assembly  
 Internal lube oil reservoir  
 Steering cylinder with external hoses and fittings  
 Trim cylinder with external hoses and fittings  
 Installation manual, owners manual and drive ball  
 wrench (one per ship set)

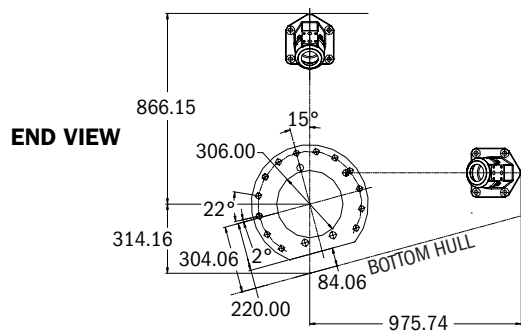
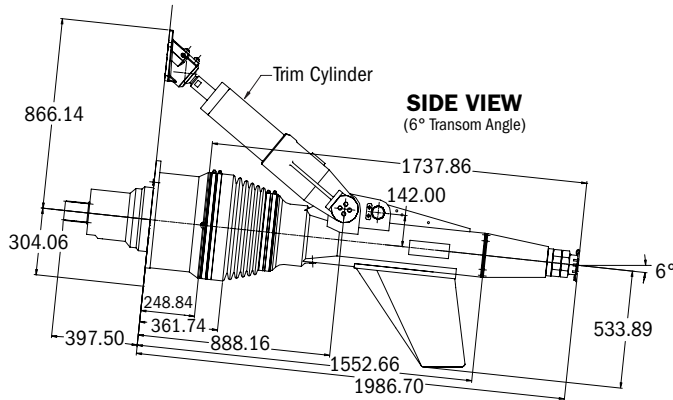
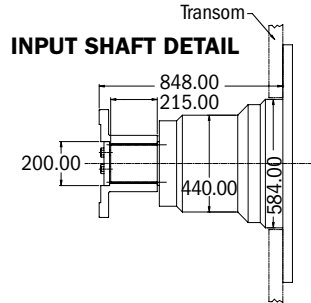
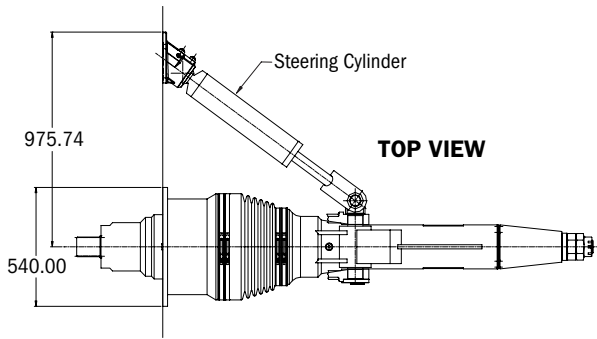
**ACCESSORIES**

Anode kit  
 Cylinder position indicator kits with gauge  
 Hydraulic power steering system  
 Gearbox adapter  
 Driveline (cardan shaft)  
 Companion (input) flange  
 Tie-bar (mechanical or hydraulic – for multiple  
 engine vessels)  
 Propeller

**TECHNICAL DATA**

	<b>ASD15A1S</b>	<b>ASD15A1L</b>
Reduction Ratio	1.00:1	1.00:1
Maximum Input Torque	11,500 ft-lbs	13,500 ft-lbs
Unit Weight	1,500 lbs	1,540 lbs
Overall Length from Transom	78 in	78 in
Nominal Shaft Diameter	4.5 in	4.5 in
Steering Angle Degree	36 degrees	36 degrees
Trim Angle Degree	15 degrees	15 degrees

**ASD 15 IN-LINE SURFACE DRIVE SCHEMATICS**



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**ASD 16****ARNESON SURFACE DRIVE****DESCRIPTION****ALUMINUM IN-LINE (ASD16A1LU)**

Aluminum thrust assembly

Internal lube oil reservoir

Steering cylinder (electronic feedback) with external hoses and fittings

Trim cylinder (electronic feedback) with external hoses and fittings

Installation manual, owners manual and drive ball wrench (one per ship set)

**ACCESSORIES**

Anode kit

Cylinder position gauges

Hydraulic power steering system

Gearbox adapter

Driveline (cardan shaft)

Companion (input) flange

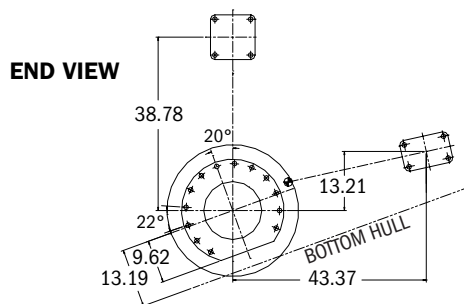
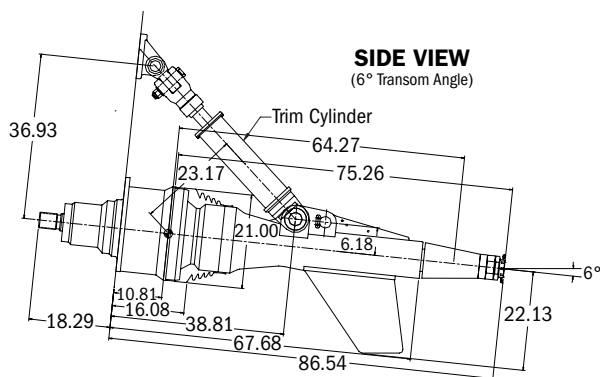
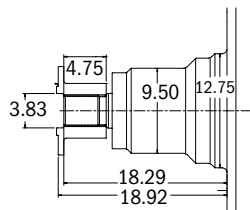
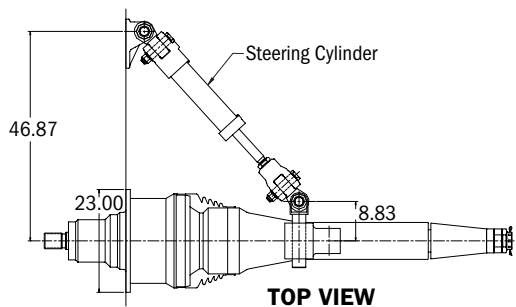
Tie-bar (mechanical or hydraulic – for multiple engine vessels)

Propeller

**TECHNICAL DATA – ASD16A1LU**

Reduction Ratio	1.00:1
Maximum Input Torque	16,500 ft-lbs
Unit Weight	1,985 lbs
Overall Length from Transom	87 in
Nominal Shaft Diameter	4.5 in
Steering Angle Degree	36 degrees
Trim Angle Degree	15 degrees

**ASD 16 IN-LINE SURFACE DRIVE SCHEMATICS**



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