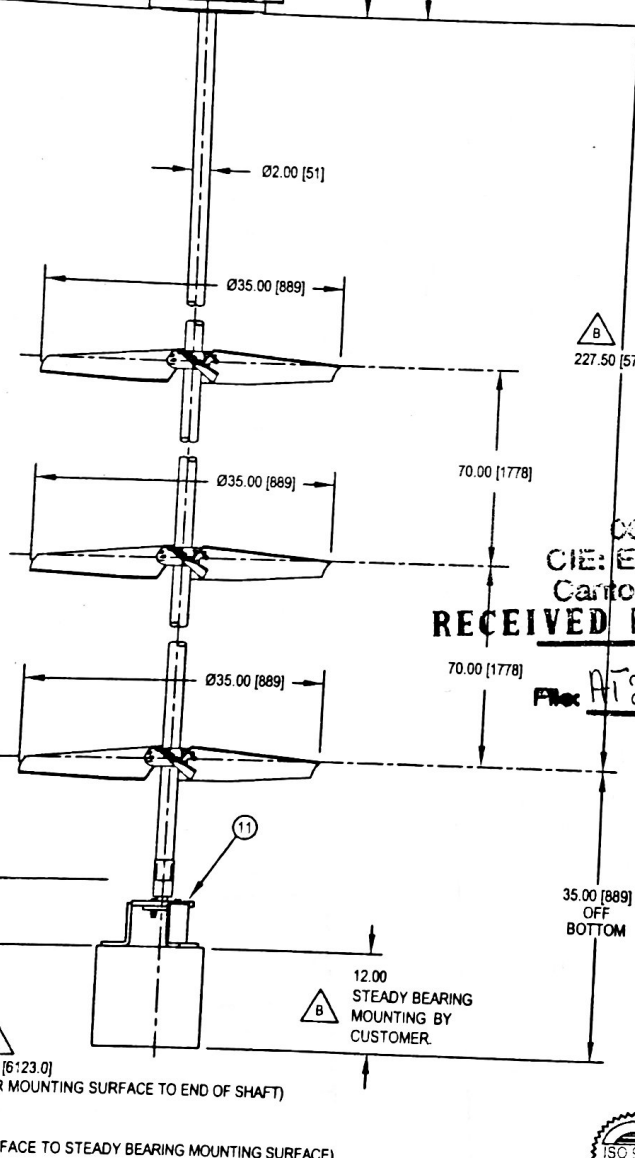


NOTES:

- ① MATERIAL OF IN-TANK MIXER PARTS IS STAINLESS STEEL 304, WITH 316SS HARDWARE AND 316ELC IMPELLER HUBS.
- ② ALL DIMENSIONS ARE IN INCHES [mm].
- ③ MOTOR DATA:
H.P.: 2.0 R.P.M.: 1200 DUTY: SEVERE
VOLTS: 230/460 PHASE: 3 HZ: 60
ENCLOSURE: TEFC FRAME: 184TC.
- ④ IMPELLER DATA:
TYPE: A510E / A510E / A510E QUANTITY OF BLADES: 3/3
R.P.M.: 66
IMPELLER HUBS NOT ADJUSTABLE OR REMOVABLE FROM POSITION SHOWN. BLADES/FINS ARE REMOVABLE.
- ⑤ TOTAL MIXER WEIGHT IS 626 lbs [284 kg]



- ⑥ MIXER MOUNTING DESIGN DATA:
VERTICAL DOWNWARD LOAD: 1500 LBS. [6672.3 N]
TORQUE: 2800 IN.-LBS. [316.4 N·m]
BENDING MOMENT: 7500 IN.-LBS. [847.4 N·m]
DESIGN LOADS ARE GREATER THAN ACTUAL LOADS BY A SUITABLE FACTOR, CONSISTENT WITH CONSTRUCTION CODES AND LIGHTNIN EXPERIENCE.
LIGHTNIN WARRANTIES AND GUARANTEES EXTEND FOR THOSE ITEMS FURNISHED BY IT. ALL OTHER EQUIPMENT AND DESIGNS ARE THE RESPONSIBILITY OF OTHERS.

- ⑦ MINIMUM OPENING REQUIRED TO PASS DISASSEMBLED MIXER PARTS IS 9" [228.6 mm]. STEADY BEARING TRIPOD MINIMUM OPENING IS 14" [355.6 mm].
- ⑧ REFER TO INSTRUCTIONS FOR PROPER LIFTING PROCEDURE.

00018
CIE: ETHANOL
Canton, Illinois
RECEIVED FEB 23 2007

- UNIT IS FURNISHED WITH A STYLE S10L MECHANICAL SEAL.
- MOUNTING FLANGE DATA:
ANSI SERIES DRILLING
SIZE: 8" O.D.: 13.50 BOLT CIRCLE: 11.75
NO. OF HOLES: 8 BOLT DIA: .75
FLANGE BOLT HOLES ARE TAPPED THRU. BOLT HOLES ARE LOCATED ON MIXER CENTERLINE.
- ⑨ UNIT IS FURNISHED WITH A TRIPOD TYPE STEADY BEARING. BUSHING MATERIAL IS GLASS FILLED TEFLON. STEADY BEARING SLEEVE IS STAINLESS STEEL 316. THE LATERAL DESIGN LOAD ACTING AT THE CENTERLINE OF THE BUSHING IS 75 LBS. [333.6 N]. MIXER MOUNTING SURFACE AND STEADY BEARING MOUNTING SURFACE MUST BE PARALLEL WITHIN ±25°. IF THEY ARE NOT A TAPERED GASKET, DUTCHMAN OR SHIMS SHOULD BE ADDED TO OBTAIN THE REQUIRED PARALLELISM.

ALL EQUIPMENT DESIGN AND APPLICATION DATA SHOWN HEREIN AND RELATED KNOW-HOW IS CONFIDENTIAL AND THE PROPERTY OF THE LIGHTNIN GROUP OF COMPANIES. NO USE OR DISCLOSURE THEREOF MAY BE MADE WITHOUT OUR WRITTEN PERMISSION.

LIGHTNIN[®]
MIXERS AND AERATORS

GENERAL ARRANGEMENT

FOR: **LURGI (CENTRAL ILLINOIS ENERGY)**
S.O. NO.: 872534 PROJ. NO.: 515285
CUST. P.O. NO.: 6018-70717 QUANTITY: 1
TAG NO.: COOK TUBE AT-2201
MIXER MODEL: 15S2 RATIO: 17.31:1
SERIAL NO.: R0651528501



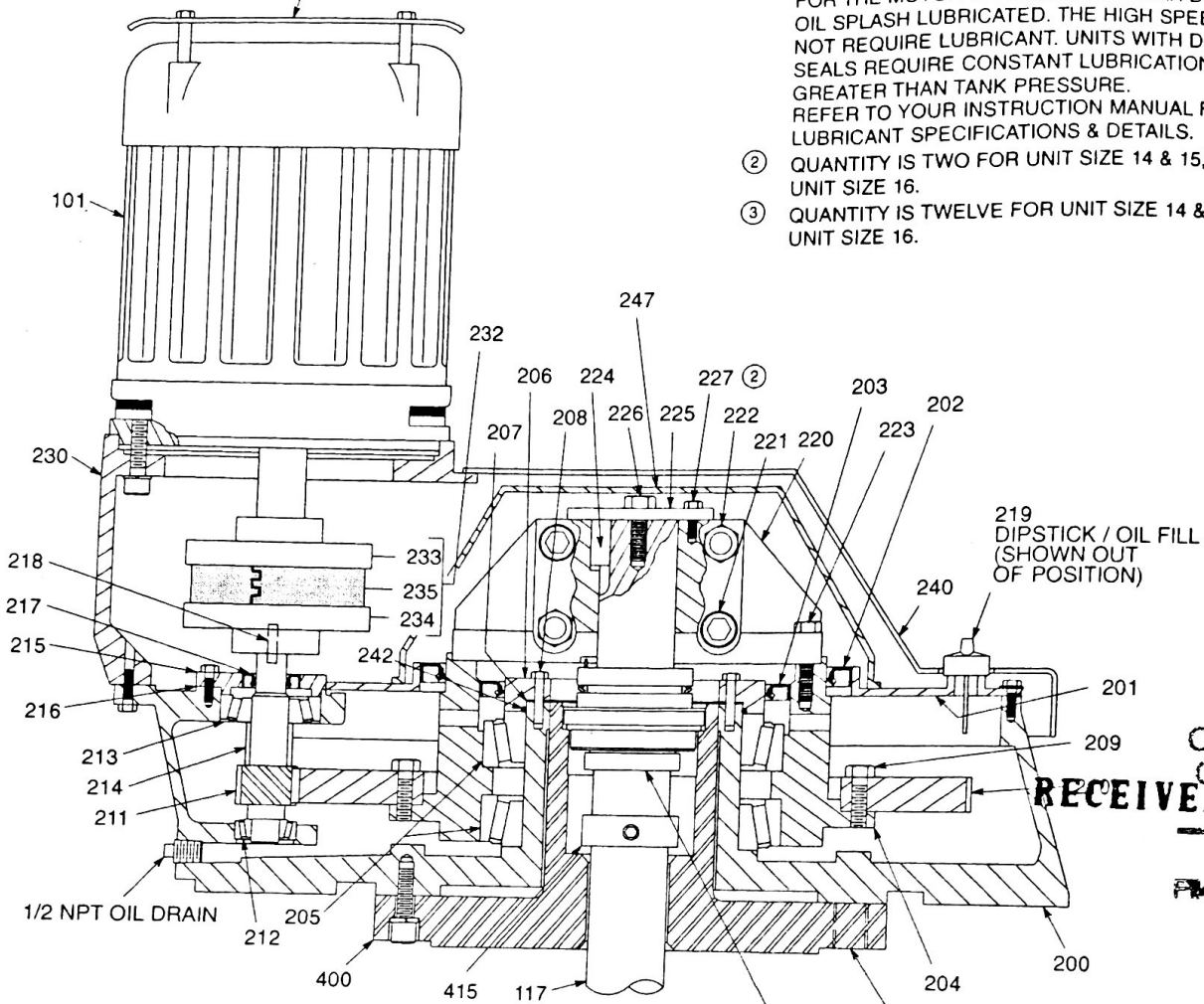
CERTIFIED BY: _____ DATE: _____

© LIGHTNIN 2006

DRIP COVER FURNISHED AS STANDARD

NOTES:

- ① NO PERIODIC GREASE RELUBRICATION IS REQUIRED EXC. FOR THE MOTOR BEARINGS. ALL GEAR DRIVE BEARINGS ARE OIL SPLASH LUBRICATED. THE HIGH SPEED COUPLING DOES NOT REQUIRE LUBRICANT. UNITS WITH DOUBLE MECHANICAL SEALS REQUIRE CONSTANT LUBRICATION AT A PRESSURE GREATER THAN TANK PRESSURE. REFER TO YOUR INSTRUCTION MANUAL FOR COMPLETE LUBRICANT SPECIFICATIONS & DETAILS.
- ② QUANTITY IS TWO FOR UNIT SIZE 14 & 15, AND THREE FOR UNIT SIZE 16.
- ③ QUANTITY IS TWELVE FOR UNIT SIZE 14 & 15, AND SEVEN FOR UNIT SIZE 16.



00018
CIE: ETHANOL
Canton, Illinois
RECEIVED FEB 23 200

AT 220

THRU TAPPED HOLES TO MATE WITH 150 LB. ANSI SERIES FLANGE DRILLING

REFER TO **LIGHTNIN** SERIES 10 SEAL ASSEMBLY DRAWING

WHEN ORDERING PARTS, SPECIFY; MODEL, SERIAL NUMBER, ITEM NUMBER AND DRAWING NUMBER.

ALL EQUIPMENT DESIGN AND APPLICATION DATA SHOWN HEREIN AND RELATED KNOW-HOW IS CONFIDENTIAL AND THE PROPERTY OF THE LIGHTNIN GROUP OF COMPANIES. NO USE OR DISCLOSURE THEREOF MAY BE MADE WITHOUT OUR WRITTEN PERMISSION.

LIGHTNIN®

MIXERS AND AERATORS

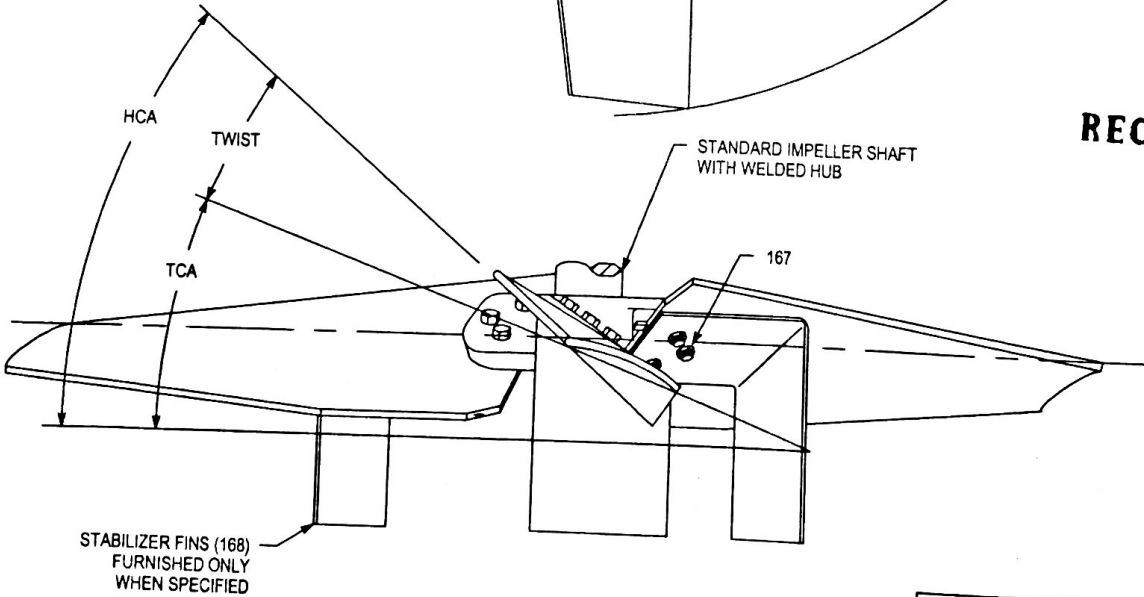
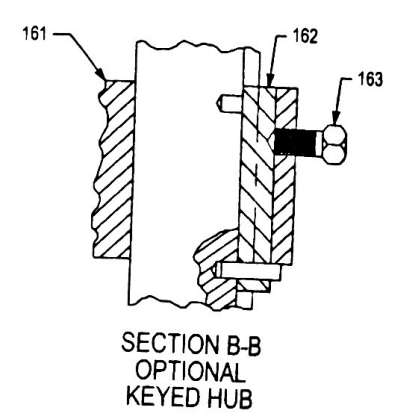
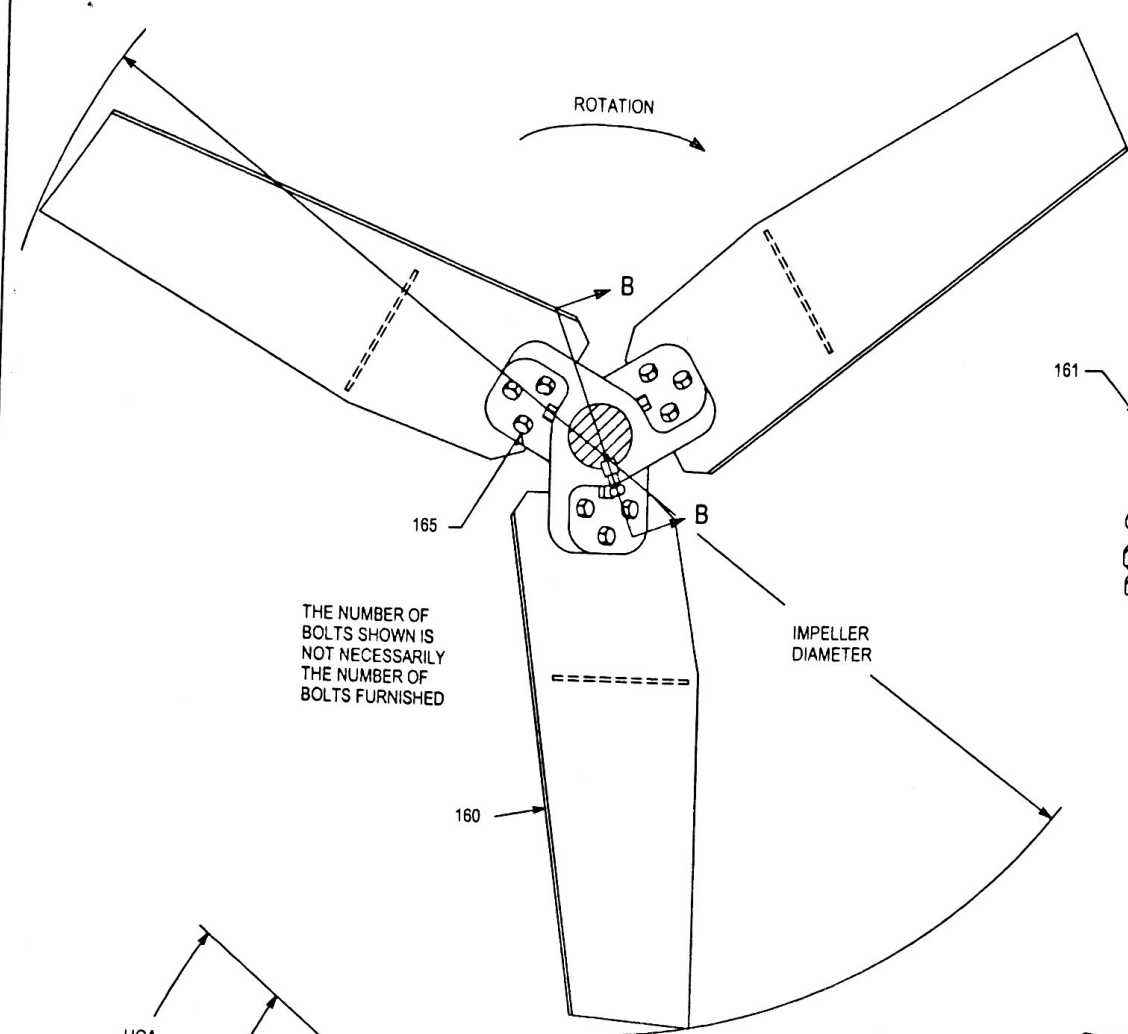
ASSEMBLY DRAWING

SERIES 10™
MODEL 14, 15 & 16
CLOSED TANK MIXER
WITH MECHANICAL SEAL



© **LIGHTNIN** 2001

216	SHIM SET - H.S. BEARING ADJUSTMENT ③	415	SHAFT SUPPORT COLLAR
215	HIGH SPEED BEARING RETAINER	400	MECH. SEAL HUB & FLANGE
214	SPACER (UNIT SIZE 16 ONLY)	247	COUPLING SHIELD
213	HIGH SPEED BEARING - UPPER	242	O-RING
212	HIGH SPEED BEARING - LOWER	240	SAFETY GUARD
211	HIGH SPEED PINION & SHAFT	235	FLEXIBLE ELEMENT - SPLIT
210	LOW SPEED GEAR	234	DRIVEN HUB - PINION SHAFT
209	HEX HD. CAP SCREW (NYLOK)	233	DRIVE HUB - MOTOR SHAFT
208	HEX HD. CAP SCREW (NYLOK)	232	H.S. FLEXIBLE COUPLING ASSY
207	SHIM SET - L.S. BEARING ADJUSTMENT (10 PER SET)	230	MOTOR PEDESTAL
206	LOW SPEED BEARING RETAINER	227	HEX HD. CAP SCREW ②
205	LOW SPEED BEARING (2)	226	HEX HD. CAP SCREW (1)
204	LOW SPEED GEAR HUB	225	THRUST PLATE
203	OIL SEAL - INNER	224	KEY - IMPELLER SHAFT
202	OIL SEAL - OUTER	223	HEX HD. CAP SCREW (NYLOK) (8)
201	DRIVE COVER	222	HEX NUT (4)
200	GEAR DRIVE HOUSING	221	SOCKET HD. CAP SCREW (4)
117	IMPELLER SHAFT	220	LOW SPEED COUPLING - SPLIT
101	MOTOR	218	KEY - PINION SHAFT
		217	OIL SEAL - HIGH SPEED
ITEM	PART NAME	ITEM	PART NAME



03012
CIE: ETHANOL
Canton, Illinois
RECEIVED FEB 23 2007
File: AT2201

WHEN ORDERING PARTS, SPECIFY:
IMPELLER DIAMETER, ITEM NO., PART NAME,
DRAWING NO. AND MIXER SERIAL NO.

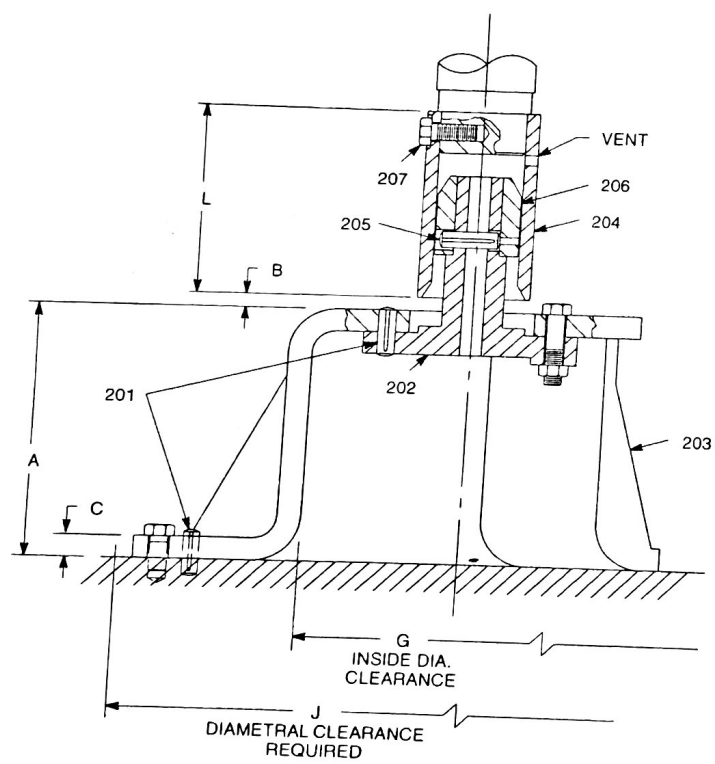
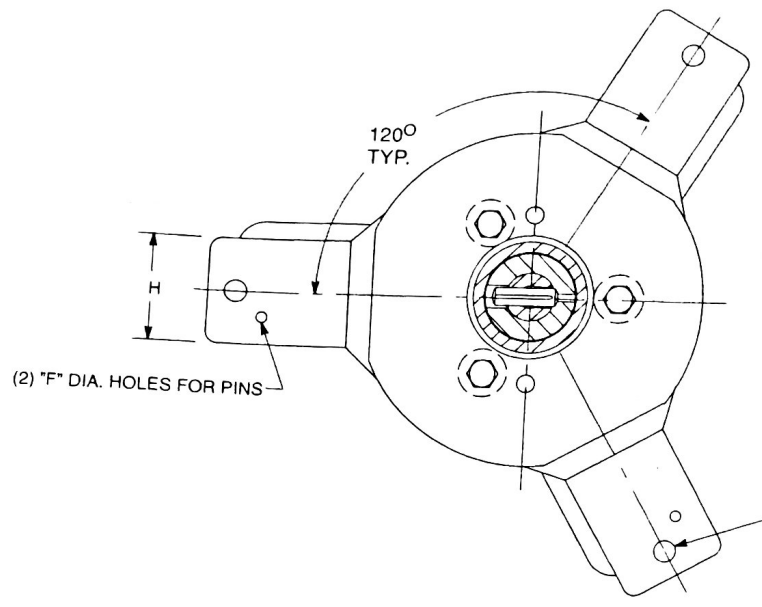
168	STABILIZER FIN	
167	HEX NUT	
165	HEX HEAD CAP SCREW	
163	SET SCREW	
162	HOOK KEY	OPTIONAL KEYED HUB
161	HUB	
160	BLADE	
ITEM	PART NAME	



ALL EQUIPMENT DESIGN AND APPLICATION DATA SHOWN HEREIN
AND RELATED KNOW-HOW IS CONFIDENTIAL AND THE PROPERTY
OF THE LIGHTNIN GROUP OF COMPANIES.
NO USE OR DISCLOSURE THEREOF MAY BE MADE WITHOUT
OUR WRITTEN PERMISSION.

LIGHTNIN[®]
MIXERS AND AERATORS

ASSEMBLY DRAWING
**A510 AND A510E
AXIAL FLOW IMPELLER
ONE PIECE HUB w/
BOLTED BLADES**



WHEN ORDERING PARTS, SPECIFY: MACHINE SERIAL NO., ITEM NO. AND DRAWING NO.

207	RETAINING SCREW
206	BUSHING
205	BUSHING PIN
204	SLEEVE
203	TRIPOD
202	BUSHING HOLDER
201	LOCATING PIN
ITEM	PART NAME

08018
 CIE: ETHANOL
 Canton, Illinois
RECEIVED FEB 23 2007
 File: AT2201



© LIGHTNIN 2001

ALL EQUIPMENT DESIGN AND APPLICATION DATA SHOWN HEREIN AND RELATED KNOW-HOW IS CONFIDENTIAL AND THE PROPERTY OF THE LIGHTNIN GROUP OF COMPANIES. NO USE OR DISCLOSURE THEREOF MAY BE MADE WITHOUT OUR WRITTEN PERMISSION.

LIGHTNIN[®]
 MIXERS AND AERATORS

ASSEMBLY DRAWING
**TRIPOD MOUNTED
 STEADY BEARING
 ASSEMBLY**

SHAFT DIA.	A	B		C	D	E	F	G	H	J	L
		MIN.	MAX.								
1-1/2 & 2	5-1/2	1/8	1	1/2	3/4	12	3/8	7	2-1/2	14	4-3/8
2-1/2 & 3	7-5/16	1/8	5/8	5/8	7/8	14-1/4	1/2	8-1/2	3	16-1/2	5-7/8
3-1/2 & 4	9	-1/8	5/8	5/8	1*	17	1/2	10-1/4	3	19-1/2	7-5/8
4-1/2	11	-1/8	1-1/4	3/4	1-1/4	18-3/4	1/2	11-1/4	4	22	9-1/2
5, 5-1/2 & 6	13-5/16	0	1-3/8	3/4	1-3/8	21-1/4	1/2	13-1/4	4-1/2	25	12

Certified By _____ Date _____

DRAWING NO. L-16515C