| **工厂作业指导书**  **Work instructions** | | **工序名称**  Process name | **轮毂双头螺柱预安装** | **版本号**  version | **\*\*\*** |
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| **风机型号**  Model |  | **编译**  compile | **\*\*\*** |
| **保密等级**  Security classification |  | **文档编号**  document number | **\*\*\*** |
| **危险：** | **环境：** | **防火：** | **防护：** | **质控点：** | **关键点：** |
| 安全指示基本要求  1. 涉及到高空作业、电气作业、起重吊装作业、电焊/气割作业时，作业人员应持安监局监督颁发的特种作业证上岗作业。 2. 根据作业内容的不同风险，需按要求配备穿戴相应的PPE/安防用品，如：安全帽、安全鞋、安全带、双钩安全绳、滑块、安全眼镜、防滑/工作/绝缘手套、防护面罩、口罩、过滤式呼吸器、耳塞/耳罩、防弧闪服、防弧闪面罩、逃生救援装备、灭火器、防火毯、速差器等。  作业过程中的关键风险及风险控制措施描述 通用要求   1. 安全鞋（必须要求）； 2. 安全帽（要求）； 3. 安全眼镜（使用化学品；打磨切割；打孔；剪切包装带等） 4. 普通掌涂手套（所有作业必须佩带手套；钻孔等使用旋转工具作业禁止使用手套） 5. 呼吸防护面罩（产生粉尘（删除）；喷漆等作业）； 6. 耳塞/耳罩（打孔等产生噪音作业）； 7. 工作服（必须） 8. 防尘服（辅线等）；（机舱、导流罩内） 9. 口罩防尘口罩（产生粉尘、碎屑） 10. 安全带（登高\*.8米以上） 11. 隔热手套（手部接触高温物体） 12. 防切割手套（使用刀具必须穿戴） 13. 丁腈橡皮手套（化学品接触）   移动设备要求准则；   1. 持证作业（行车内部证书）； 2. 叉车\*米范围禁止作业； 3. 行车吊物禁止下面站人； 4. 测试过程必须遵守挂牌上锁制度；  可参考的安全规程 如下安全规程查阅方式：  OA系统—>知识中心—>文档目录—>管理流程—>安全管理   | **文档编码** | **安全规程名称** | **备注** | | --- | --- | --- | | FE--200\* | 制造部管理程序 |  | | FE--2002 | 起重作业安全管理程序 |  | | FE--\*004 | 电气作业安全管理程序 |  | | FE--\*005 | 动火作业安全管理程序 |  | | FE--\*006 | 工业卫生管理程序 |  | | FE--\*007 | 环境保护管理程序 |  | | FE--2009 | 承包商安全管理程序 |  | | FE--2\*\*9 | 消防安全管理程序 |  | | FE--S-200\* | 剪叉式升降车操作安全规范 |  | | FE--S-2003 | 叉车操作规范 |  | | FE--S-2004 | 行车操作规范 |  | | FE--S-2005 | 制造工厂挂牌上锁（LOTO）规范 |  | | FE--S-2007 | 化学品库管理规范 |  | | FE--S-2008 | 移动设备安全管理规范 |  | | | | | | |

| **工厂作业指导书**  **Work instructions** | | | | | | | | | | | | | | **工序名称**  Process name | | **轮毂双头螺柱预安装** | | | **版本号**  version | | | | | **\*\*\*** |
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| **风机型号**  Model | |  | | | **编译**  compile | | | | | **\*\*\*** |
| **保密等级**  Security classification | |  | | | **文档编号**  document number | | | | | **\*\*\*** |
| **文档修改记录** | | | | | | | | | | | | | | | | | | | | | | | | |
| 版本 | 更改类型 | 工步 | 更新前内容（before） | | | | 更新后内容（after） | | | PCO ID | | | | 编译人（compile） | | 审核人 | | | 更新时间 | | | | | 备注 |
| V\*.0 | 创建 |  |  | | | |  | | |  | | | | \*\*\* | |  | | | 20\*6-\*2-\* | | | | |  |
| \*\*\* | 更新 |  |  | | | | 增加螺柱批次号要求 | | |  | | | | \*\*\* | |  | | | 20\*8-6-29 | | | | |  |
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| **安装示意图** | | | | | | | | | | | | | | | | | | | | | | | | |
| **3D模型图** | | | | | | | | | | | **零部件信息** | | | | | | | | | | | | | |
|  | | | | | | | | | | | **轮毂上螺柱孔数量（参考）：**  \*.X---\*92=64\*3  2.X---267=89\*3  3A---273=9\*\*3  4.X---38\*=\*27\*3 | | | | | | | | | | | | | |
| **图示区** | | | | | | | | | | | | | | **危险：** | **环境：** | **防火：** | | | **防护：** | | **质控点：** | | | **关键点：** |
| **图片\*** | | | | | **图片2** | | | | | | | | | **工序** | **工序名称** | **工步** | | **作业内容** | | | | | | **图标** |
|  | | | | |  | | | | | | | | |
|  | **预装前检查** | **\*-\*** | | 目视检查轮毂变桨轴承的安装面处螺纹孔，保证无毛刺，无杂质螺纹孔清洁； | | | | | |  |
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|  |  | **\*-2** | | 检查双头螺柱，保证清洁干净，无毛刺。 | | | | | |  |
|  |  | **\*-3** | | 检查双头螺柱物料号与轮毂的物料号匹配 | | | | | |  |
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| **图片3** | | | | |  | **预装双头螺柱** | **2-\*** | | 将双头螺柱有钢印的一端朝向外侧，如图\*所示。手动将双头螺柱（顺时针）拧入轮毂变桨轴承安装面处的螺纹孔内2∽3牙，如图2所示。 | | | | | |  |
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|  |  | **注** | | 可以选用拧紧手动工具或拧紧电动工具进行拧紧作业，使用过程中，避免磕碰损坏螺纹 | | | | | |  |
|  |  |  | |  |
|  |  | **2-2** | | 将所有双头螺柱拧到螺纹孔底部，如图片3所示。 | | | | | |  |
|  |  | **注** | | **\*.轮毂单面应使用单批次号螺柱，在批次号切换时，可允许两个批次号存在。**  **2.可选用电动拧紧器，进行双头螺柱拧入作业** | | | | | |  |
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| **图片4** | | | | | **图片5** | | | **图片6** | | | | | |  | **调整尺寸** | **3-\*** | | 按顺时针或逆时针方向，用深度尺测量双头螺柱露出长度，如图4所示 | | | | | |  |
|  | | | | |  | | | **补充：**  轮毂30\*8640  螺柱3009585  变桨轴承30\*2795  露出长度：2\*3（0，+\*.5）mm | | | | | |  |  |  | |  |
|  |  | **注** | | 按顺序进行调整尺寸，避免遗漏 | | | | | |  |
|  |  | **3-2** | | 拧动双头螺柱，满足以下尺寸要求： | | | | | |  |
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| **图示区** | | | | | | | | | | | | | | **危险：** | **环境：** | **防火：** | | | **防护：** | | | **质控点：** | | **关键点：** |
| **\*.X MW轮毂：**  **3.X MW轮毂：**  **4.X MW轮毂：** | | | | | | | | | | | | | | **2.X MW轮毂：** | | | | | | | | | | |
| **物料清单** | | | | | | | | | | | | | | | | | | | | | | | | |
| **序号** | **名称** | | | **规格** | | **单位** | | | **数量** | | | **序号** | **名称** | | | | **规格** | | | **单位** | | | **数量** | |
| **\*** | 轮毂铸件 | | |  | |  | | |  | | | **9** |  | | | |  | | |  | | |  | |
| **2** | 双头螺柱 | | |  | |  | | |  | | | **\*0** |  | | | |  | | |  | | |  | |
| **3** |  | | |  | |  | | |  | | | **\*\*** |  | | | |  | | |  | | |  | |
| **4** |  | | |  | |  | | |  | | | **\*2** |  | | | |  | | |  | | |  | |
| **5** |  | | |  | |  | | |  | | | **\*3** |  | | | |  | | |  | | |  | |
| **6** |  | | |  | |  | | |  | | | **\*4** |  | | | |  | | |  | | |  | |
| **7** |  | | |  | |  | | |  | | | **\*5** |  | | | |  | | |  | | |  | |
| **8** |  | | |  | |  | | |  | | | **\*6** |  | | | |  | | |  | | |  | |
| **工具清单** | | | | | | | | | | | | | | | | | | | | | | | | |
| **序号** | **名称** | | | **规格** | | **单位** | | | **数量** | | | **序号** | **名称** | | | | **规格** | | | **单位** | | | **数量** | |
| **\*** | 清洗剂 | | |  | |  | | | 若干 | | | **9** |  | | | |  | | |  | | |  | |
| **2** | 抹布 | | |  | |  | | | 若干 | | | **\*0** |  | | | |  | | |  | | |  | |
| **3** | 钳子 | | |  | | EA | | | 2 | | | **\*\*** |  | | | |  | | |  | | |  | |
| **4** | 深度尺 | | |  | | EA | | | \* | | | **\*2** |  | | | |  | | |  | | |  | |
| **5** |  | | |  | |  | | |  | | | **\*3** |  | | | |  | | |  | | |  | |
| **6** |  | | |  | |  | | |  | | | **\*4** |  | | | |  | | |  | | |  | |
| **7** |  | | |  | |  | | |  | | | **\*5** |  | | | |  | | |  | | |  | |
| **8** |  | | |  | |  | | |  | | | **\*6** |  | | | |  | | |  | | |  | |